



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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GEORGE C. SCHAEFFER, { EDITORS AND
PROPRIETORS. }

SATURDAY, JULY 16, 1836.

[VOLUME V.—No. 28]

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AMERICAN RAILROAD JOURNAL.

NEW-YORK, JULY 16, 1836.

We would call attention to the advertisement of the Messrs. Ralston of Philadelphia, in this number of the Journal, in relation to Railway Iron and Locomotive Engines.

The Messrs. Ralston have been engaged more than six years in the business, and have ordered over 100,000 tons of iron for State governments and companies; and their experience in the business, and the residence of one of them, or of a competent agent, in London, to inspect before shipment, every thing ordered by them, will insure to those companies who purchase of them, or give orders through them, the most favorable terms the market will allow.

RAILWAY IRON, LOCOMOTIVES, &c.

THE subscribers offer the following articles for sale.

| | |
|--|--|
| Railway Iron, flat bars, with countersunk holes and mitred joints, | |
| 350 tons 2½ by 4, 15 ft in length, weighing 4 ¹ / ₂ lbs. per ft. | |
| 290 " 2 " 4, " " " " 3 ⁵ / ₁₆ " | |
| 70 " 1½ " 4, " " " " 2½ " | |
| 80 " 1½ " 4, " " " " 1 ²⁵ / ₁₆ " | |
| 90 " 1 " 4, " " " " 1 ¹ / ₂ " | |

with Spikes and Splicing Plates adapted thereto. To be sold free of duty to State governments or incorporated companies.

Orders for Pennsylvania Boiler Iron executed. Rail Road Car and Locomotive Engine Tires, wrought and turned or unturned, ready to be fitted on the wheels, viz. 30, 33, 36, 42, 44, 54, and 60 inches diameter.

E. V. Patent Chain Cable Bolts for Railway Car axles, in lengths of 12 ft 6 inches, to 13 feet 2½, 3, 3½, 3¾, 4, and 4½ inches diameter.

Chains for Inclined Planes, short and stay links, manufactured from the E. V. Cable Bolts, and proved at the greatest strain.

India Rubber Rope for Inclined Planes, made from New Zealand flax.

Also Patent Hemp Cordage for Inclined Planes, and Canal Towing Lines.

Patent Felt for placing between the iron chair and stone block of Edge Railways.

Every description of Railway Iron, as well as Locomotive Engines, imported at the shortest notice, by the agency of one of our partners, who resides in England for this purpose.

Mr. Solomon W. Roberts, a highly respectable American Engineer, resides in England for the purpose of inspecting all Locomotives, Machinery, Railway Iron &c. ordered through us.

A. & G. RALSTON.
Jy9tf Philadelphia, No. 4, South Front st.

LOCOMOTIVE ENGINES ON INCLINED PLANES.

BETTER AND BETTER.—It is with great pleasure that we lay before our readers, the following statement of a remarkable performance, handed to us by Mr. W. Norris of Philadelphia. We hope to see some one take up these facts and reconcile them to the theories hitherto adopted.

Meanwhile we will take a trip to the Columbia Road for the express purpose of witnessing a series of experiments upon that road with this engine.

"The Locomotive Steam Engine "George Washington" made for the State of Pennsylvania by William Norris of Philadelphia, was placed on the Columbia and Philadelphia Railroad on Saturday afternoon the 9th inst. On the following morning her powers were tested in ascending the Inclined Plane near Philadelphia. This plane is twenty eight hundred feet in length, with an ascent in that distance of one hundred and ninety-six feet, or at the rate of 369 feet to the mile, or seven feet rise in one hundred feet, or one foot in thirteen. The weight of the Engine is 14,930 lbs. only. The load attached weighed 19,200 lbs. including the weight of 24 persons who were on the Tender and Burthen Car. The En-

gine started immediately at the base, without a running start, and dragged up said load of 19,200 lbs. the above distance of 2800 feet in the space of two minutes and one second, or at the rate of 14½ miles per hour; pressure on the boiler a fraction under 60 lbs. to the square inch. The Engine then descended the Plane with the same load at various speed, frequently stopping to test the security. The valves being reversed, or set for going ahead, and when it was desired to stop altogether, the steam was let on very slowly which brought her to a dead stand for a second or two, when she would immediately start up the grade. In this way, stopping and starting at pleasure, the time occupied in descending the 2800 feet, was from 12 to 15 minutes, thus testing the perfect security of her performance on the Plane. She again ascended the Plane with the same load and took her place on the road, the same morning, ready for use."

NEW JERSEY RAILROAD AND TRANSPORTATION COMPANY.

We owe an apology for not laying before our readers the account of the proceedings at the opening of this road.

We were promised a copy of the proceedings; but it was not received, notwithstanding we delayed the Journal of last week one day for it; and as we do not receive the Newark papers, though we have for many months sent the Journal to the Daily Advertiser, we have now to content ourselves with the following concise notice of the pleasures and performance of the day.

The cars with a large company left Jersey City about 9 o'clock on the 7th inst. Proceeding over the ridge—by the temporary road, laid until the proper bed is formed

through the cut—the road crosses the meadows and reaches Newark. From Newark a train of thirteen cars was taken in fine style by the "New Brunswick," a very fine engine. The train stopped and additional company was taken on board at Elizabeth-town, and Rahway. The road was passed over in fine style, though no attempt was made at a quick trip.

The enthusiasm of the people was great. Vehicles of every description were drawn up on the sides of the road, some of them evidently from a distance—the family seated under the nearest tree decked in their best—the ladies waving handkerchiefs—the men and boys cheering along the whole road.

Schools were turned out and the grandmother of eighty years, shook her head and raised her hands in astonishment, hardly believing what her eyes beheld.

The company were most hospitably entertained at New Brunswick, where a general holiday seemed to be held. The cars stopped opposite the town on the hill and the company proceeded by way of the Old bridge—the new one not yet being completed—to the town hall.

Here a very appropriate address was delivered by the Mayor of New Brunswick, which was responded to by Gen. Darcy, president of the company.

A number of toasts evincing the spirit and good will of the company were given—and all present seemed delighted.

In the afternoon we returned with a large company in addition from New Brunswick, and again received hospitable entertainment at Newark.

The value of this road is very generally known. A continuation of it will give the shortest and best route for general travel to Philadelphia.

Amicable arrangements have been made we understand with the Camden and Amboy Company, and we may soon have a choice of routes offering every convenience for travel and transportation of goods and passengers between the two cities.

We think that this road reflects great credit upon Mr. Sykes its engineer.

His rail is a very good one, and some of his contrivances in the mechanical details of the work are of such importance as to merit a separate and more extended notice.

We think that some short-curves, and arms of double curvature, might in some instances have been avoided. A few hundred dollars additional expense in excavation are not too much to pay for a direct road. These curves, however, may have been dictated by circumstances of propriety, of which we are not aware.

On the whole, we think that Mr. Sykes deserves much credit, and has earned a reputation, by so far finishing his road, which will not, we are sure, be impaired by its completion.

He is connected with enterprising men, upon whom merit will not fail to make the proper impression.

For the Railroad Journal.

CLINTON.—NO. V.

One hundred and six miles, on an air line, from the City Hall to the heart of the Anthracite Coal Valley of Luzerne County, Pennsylvania! This is the text: this is the text I preach from. Sooner or later it must have its effect in your great city. Fifty miles nearer to New-York than Albany. Not further from the Park on a straight line, than Washington Square in Philadelphia is, on the route travelled, from the coal mines of Schuylkill, is it not apparent, to a moments reflection, that those Luzerne coal deposits are so near to New-York, and so easily accessible, as to render them objects of first rate importance to the consideration of all who are concerned in the business and prosperity of the city? Cannot New York, by these mines, enter into fair competition with Philadelphia, in the coal trade? And if she can, is not that already great and rapidly growing business, worthy of her earnest, prompt and early attention?

Before I close, my purpose is to give a brief description of the Luzerne Anthracite Coal Valley. One or two remarks, however, press on my mind, and I may as well put them down here.

First. In a late number of the Journal it is mentioned that the Darlington and Stockton Railroad, in England was expected, when made to transport 50,000 tons of coal. Lo! beyond all expectation, or even hope, during the past year there have been transported on it near 500,000 tons: So it is: So, too, on all the canals and Railways in England, leading to coal mines, the business in coal has very greatly surpassed the most excited expectation: So, too, would it be here, were the proposed railroad fairly in operation.

I wish, Mr. Editor, you would add to the interest and value of your very interesting Journal, monthly, or once in three months, prices current of railroad and canal stocks, in our own country and in Great Britain.

Second. In a note to my former number you mentioned the probable price, per ton, at which coal could be taken from Pittston to New York. In my opinion that price was much too high, for, you must consider, that the return cars would all go back loaded. I pray you to remember, that, from Philadelphia to Mauch Chunk, and from Philadelphia to Schuylkill, the boats have to return nearly empty, because they go into a barren, uninhabited region, without

trade or population, except such as is derived from, and dependent on, the coal trade. Hence the descending freight, or coal, must necessarily bear the burden of the returning cars or boats nearly freightless. Not so will it be with cars on the New York and Pittston Railroad; for at Pittston the Susquehanna River is struck, the Wyoming Valley, and Lackawanna Valley, rich, populous, productive, and rapidly advancing, will be reached. From Pittston the State canal is already completed down the river to Columbia, and will be soon finished up the river to the State line. A vast extent of country, already rife with business and population, now supplied, imperfectly by circuitous routes, will require and receive by the direct line from New York, fish, plaster, salt, sugar, molasses, oil, coffee, hides, grindstones, domestic and foreign goods and merchandize of all sorts, which will all bear handsome tolls, and enable the stockholders and carriers to place the toll and carriage on coal so low, that this necessary and leading article may be transported to your city, at a moderate cost.

Suppose the distance of the Railroad from Pittston to New York to be 130 miles, and this is making a large allowance for deviations from the straight line, cars, going down with coal, at the rate of 11 miles an hour, would, at this season of the year, leave at sun-rise, and arrive at New York at half past 4 P. M. There would be then time to load with merchandize, and with their lighter freight return to Pittston before morning. Shorten the road, as it is believed may easily be done, from its present circuitous location, 10 miles, and with a speed entirely consistent with safety, the trip out and back may be made in a day. Can any one of your readers tell us how many days a boat on the Schuylkill Canal, or Lehi and Morris Canal, is usually engaged in making a trip for coal? I am fully persuaded that, in a very few years, the coal trade from the Luzerne mines to New York, will be one of the most extensive and lucrative branches of business carried on by your enterprising city. And this consideration should be borne in mind by capitalists disposed to make investments in lands in Luzerne; namely, that the balance of trade will naturally be large in favor of the Anthracite Valleys; and that every district which has the balance of trade in its favor, consequently grows rich, and therefore that all property therein goes on steadily appreciating.

I have stated the suppositions that the Railroad might be 130 miles: if so, and the toll be fixed at 1 cent a ton per mile, \$1.30
Transportation 2 cents a ton per mile, 2.60

\$3.90

Then the actual cost of taking coal to New York from Pittston would be three dollars and ninety cents. Add 40 cents for raising and 50 cents for its value per ton in the mine and you have \$4.80. On canals

the cost of transportation, independent of tolls should not exceed 3 quarters of a cent per ton per mile, and does any rational man doubt, but, with the improvements every day making in Railroads, transportation by that mode will ultimately be reduced to nearly the minimum of cost on Canals?

I did intend in this number, to give a description of the Luzerne Anthracite Coal Valley, but it is impossible to do so consistently with the brevity prescribed to myself, I therefore defer such description to my next.

Rail-Road.—A new locomotive engine on the Lowell Rail Road a few days since brought from Boston 190 tons, weight of engine, cars and loading included. The same engine without any load except the Fender, passed from the watering place to Lowell, a distance of fifteen miles in 20 minutes; that is at the rate of 45 miles per hour. This is quick time, forward march! Such a car as this would be convenient "to send after the Doctor."

June 17, 1836.

H. C.

FOREIGN RAILROAD ITEMS.]

A deputation, consisting of Colonel Knox Gore, Lord Lieut. of the county of Sligo, on behalf of the county of Mayo Committee of the Blacksod and Broadhaven Railway, Sir H. Meredith, Hon. Sir F. Stanhope, R. Murdock, Esq., agent to the Earl of Arran and to Mrs. Leslie, Mr. Leahy, Solicitor, etc., have had an interview with the Lord Lieutenant, at Dublin Castle, relative to the survey of the harbours on the western coast of Ireland, with a view of selecting an eligible one as a packet station; and also for the purpose of getting his Excellency's instructions to the Board of Works to have a calculation and statement made of the expense of a survey of the intended line of railway from Dublin to Blacksod and Broadhaven harbours by Mullingar, Longford, Granard, Carrick-on-Shannon, Boyle, Ballina, Castlebar, etc., and from Mullingar to Galway, by Athlone, Ballinasloe, etc. His Excellency received the deputation most graciously, and stated that he would communicate with the Board of Work.—*Dublin Packet*.

The Brussels Journals contain accounts of the opening of the iron railroad between that capital and Antwerp on Tuesday. At half past 11 o'clock, the *Belge* steam-tug started towing after it 12 carriages in which were the Ministers, the Governor, the municipality, and other notables of the city. These were followed by *Stephenson*, drawing an infinite number of vehicles containing the provincial authorities and other persons invited. They stopped an hour at Malines, where the whole party partook of an elegant breakfast. The convoy then proceeded to Antwerp, where, on arriving at the suburb of Borgerhout, it was received by the King and Queen, who were under a tent, and surrounded by their court, the foreign ambassadors, and other great per-

sonages. M. Roger, Governor of the Province of Antwerp, and the Burgomaster of the town, delivered addresses to his Majesty, who replied in suitable terms. The whole way from Brussels to Antwerp was lined with troops, and notwithstanding the rain fell in torrents, an immense concourse was assembled to view the ceremony. The carriages were all richly adorned with Belgian, French, English, and American flags and other decorations.

Last week an experiment was made in the Champs-Elysees, in the presence of a Committee of the *Societe d'Encouragement pour l'Industrie Nationale*, and a number of engineers, on the possibility of running wagons on iron railroads, having curves of a radius less than 50 metres, at an extraordinary velocity, according to the system of M. Laignel. A wagon weighing 500 kilogrammes, loaded with 1360 kilogrammes of paving stones, started on an inclined plane of one decimetre in every metre, went safely along a curve of 32 metres in length at the rate of 15 leagues an hour; without going off the wheel way, though the outer band of the ridge was not more than one centimetre in height, and was the only opposition to the centrifugal force. The trial succeeded perfectly, and appears to have resolved a difficulty which has hitherto been considered as insuperable. The system of M. Laignel is extremely simple and is applicable to all railroads.

Notwithstanding the very heavy rains during the whole of the past week, and the present difficulty of access to the commencement of the London and Greenwich railway, as well as the company having been able to work only one engine and seven carriages in a train, the receipts of the week amounted to 550*l*. 17*s*. 6*d*.—*Courier*.

Accounts of the 23d ult. from Rome mention that it is in contemplation to establish regular steamboats between the mouth of the Tiber and Naples. M. Torlonia, the noted banker, is at the head of the company organising for this enterprise.

A letter from Trieste of the 19th ult. says:—"Yesterday the steamboat of 100 horse power, which is to be employed as a packet between Constantinople and Galatz, left this port for Smyrna. The passage will it is said, be made in six days. She will touch at Corfu and Athens."

Arrangements are making on the London and Greenwich Railway to convey 300 passengers at a trip at Easter Fair. As the carriages make four trips per hour, this would give 12,000 persons; and as this may be fairly doubled during the holidays, we do not think it too much to suppose that they may carry 26,400 persons per diem.—*Chronicle*.

Few persons would even ten years ago have thought of making a tour in the Levant and round the Mediterranean in 74 days including a sojourn of 51 days in 15 different places. An advertisement in this day's Journal announces the above interesting voyage to take place in May next, from Marseilles, in a splendid steamboat, having every accommodation and luxury

that can be desired by the most fastidious traveller. This novel and attractive design will doubtless meet with great encouragement.—*Galignani Mess*.

The expense of keeping the Bath turnpike roads since the appointment of Mr. M'Adam as general surveyor, in 1826, has been so reduced, as to enable the trustees, with an increase of only 18,000*l*. to the debt, to lay out nearly 45,000*l*. in lowering hills and making new roads, entirely to give up the statute labour, to reduce the tolls upwards of 3,700*l*. a year, and to remove several of the toll gates.—*Standard*.

The *Augsburgh Gazette* gives the following from Holstein, dated the 17th inst.: "A report is spread of the English company having found a more direct road for the commerce of the Baltic: they propose establishing a railroad to begin at Gluckstadt, and end at one of the Baltic ports, probably Kiel. The circuitous course of the Elbe by Hamburg would thus be avoided, and considerable duties upon the transit of goods would be economised. Some steps have already been taken with the Government upon the subject; the report, however, merits confirmation."

RAILROAD AND CANAL INTELLIGENCE.

RAILROAD FROM ALTON TO GALENA.—

The Charter is a liberal one. The capital stock to be \$1,000,000, and power to increase it to any amount. The Company is not required to pay any bonus or tax. The road to be completed in ten years, or at least one-fourth part. This road will pass through the most wealthy and fertile part of our State. Galena, the Potosi of Illinois, is for upwards of six months in the year, shut out from market by ice and low water. This country, which has such a vast hidden treasure in its bowels, will not be shut thus long from market. By this road we will be enabled to send our surplus produce to a near and safe market. We will at some future time take this subject and try to show the great necessity and importance of this work.—*Rushville Journal*.

DETROIT AND ST. JOSEPHS RAILROAD.

—We hear favorable accounts of this road. No pains have been spared to advance the undertaking.

It is expected that the road will be finished as far as Ypsilanti by the first of January next.

RAILROAD FROM PENSECOLA TO COLUMBUS.—

Major Graham of the U. S. Eng., is engaged in locating this road. Much of the iron is contracted for, as also six locomotives from Lowell.

ST. ANDREWS AND QUEBEC RAILROAD.

—The agents sent to London to obtain an appropriation for the survey of this road have succeeded.

Lord Glenelg the colonial minister with the consent of the king having appropriated 10,000*l*. for the expenses of the survey.

This liberality has called forth the proper

spirit. The following is from the *Morn. Courier*, Montreal.

It is gratifying to learn that the inhabitants of New Brunswick are to lose no time in making the proper use of the 10,000^l. lately granted by government for the purpose of effecting a complete survey of the St. Andrews and Quebec Railroad. A letter from Mr. WILSON, of St. Andrews, (N. B.) to Mr. AULDJO, of this city, explanatory of the steps the Railway Committee are about to take is subjoined:—

ST. ANDREWS, June 14, 1836.

DEAR SIR,—You will ere this have received a plan and prospectus of our projected Railroad, from this place to Quebec, and probably have heard of our expectations having been so happily realized by our noble government in England, granting us 10,000^l. the more fully to explore and ascertain the practicability of making the road. And we have the strongest assurances from Government, that on this point being ascertained, we shall not be disappointed in the grant of Crown lands through which this road will pass; as well as aid in money from our Casual and Territorial revenue. With these high favors we are fully confident of ultimate success in this great work.

A deputation is now at Fredericton advising with Sir ARCHIBALD CAMPBELL, our Governor, so as to make the necessary arrangements for the exploration.

We purpose to begin at Point Levi, and from thence proceed the whole route to St. Andrews. As the season is advancing, we wish not to lose any time in commencing the survey, and the invaluable services of Captain YULE we fully calculate on, and as many other scientific gentlemen to be selected at your City and Quebec, as may be necessary for the work; the object, therefore, in taking this liberty is to ask the favor of your communicating with Capt. YULE, and should he be absent from your City, be pleased to address him advising him of our wishes: and that a Deputation will leave here in eight or ten days for Quebec via. Montreal, with a view of the necessary arrangements for starting to the exploring party; when they will have the honor to wait upon you. I am, very respectfully, &c. yours,

JOHN WILSON.

George Auldjo, Esq.

ROME AND WATERTOWN RAILROAD.—

The preliminary survey of this road has been undertaken by W. Dewey, Esq. of this city, assisted by R. F. Livingston formerly of the St. John and Laprairie road.

This road will be one of many intersecting this region, and destined to bring into play the resources of this section of country.

From all that we can learn it is evident that the proper spirit is about to prevail in Watertown on this subject.

It is needless to insist upon the advantages of the location of this place, recent sales of land in the vicinity having satisfied capitalists on that score.

IMPROVEMENT OF MUSKINGUM RIVER.

—The survey preparatory to this improvement has been undertaken by Charles Hill, Esq. of Zanesville. The selection of this gentleman appears to find general favor.

We perceive by the following extract that Major McNeil, Chief Engineer and Agent of the Boston and Providence Railroad has resigned his situation.

This gentleman has charge of the Long Island road to which it is said he is about to devote his entire attention.

The compliment is deserved, and shows how highly Major McNeill is esteemed.

Extract from the Records of the Boston and Providence Railroad Company, June 11, 1836.

Voted, that the resignation of Major McNeill, as tendered in his letter of May 28th be accepted, and that the following vote of thanks, and for the payment of his salary to the 1st of July next be communicated to him by the President.

Voted unanimously, that the thanks of the Board be presented to Wm. Gibbs McNeill, Esq. for the distinguished ability and fidelity with which he has conducted the affairs of the Corporation as their principal agent and engineer; and the gentlemanly deportment which he has uniformly displayed towards all the officers of the Company.

Voted unanimously, that the salary of the principal Agent and Engineer, be continued until the 1st of day of July next, and the Treasurer is hereby directed to pay the same accordingly.

Office of the Boston and Providence Railroad Company.

(Signed) WM. W. WOOLSEY, Pres't.

From the *Times*.

RAILROAD AND TRADE UP THE CONNECTICUT RIVER.

The obstructions in the navigation of the river above, are only so many arguments for entering heart and hand in favor of a Railroad through the valley. The further north we go, we find that the number of merchants who visit this market decreases and that the amount of merchandise freighted up the river, is as compared to the amount sold there, exceedingly small and to a great degree composed of salt. The reason why more of other articles are not purchased in this market, is not because they cannot do as well as they could elsewhere, but because they cannot get them home in season to meet the demand, and are therefore compelled to transport them by land from other markets.

Limited quantities of light goods are sold to go up into the upper section, but they are reluctant purchasers of them. It may be said that whatever success the merchants here have experienced in the sales of such goods, has been entirely owing to their untiring activity and persevering energy to induce the up river trade to make our city their market.

In 1831 and 1832 when an effort was

made to offer increased facilities for getting goods up the river, and with greater despatch, many of the traders who had not previously been to this market, were persuaded to try it for their light as well as heavy goods, but high water and the usual difficulties of navigation at the canals and sand bars, caused such delays as finally exhausted the patience of the sufferers. It has now retrograded nearly to the old spot again. The quantity of salt heretofore freighted has been large and as a general rule, been bought, not because it was wanted immediately, but to make up a full freight for the boats, and kept on hand from the summer months until wanted in the winter. During the past two years an important change has occurred in the price charged by the transportation lines from Boston on this article. They engage to bring salt to the door of the merchant for the same price per ton as is charged on the river, or deliver it at a certain price per bushel, at their option.

For instance to Wells River, the river price is 60 cts per bushel, or \$15.00 per ton. The transportation lines deliver salt at \$15.00 per ton or at one dollar per bushel including cost in Boston. The preference already shown by some to the transportation lines, is extending to others and will not only be felt here, but also by the proprietors of the locks and canals in their receipts for tolls. The moment this is taken away from us, just so certain will the trade for others follow, because it is an important article, on which the boats rely to make up the deficiencies of other freight and also in order to make constant and regular trips.

On freight from Wells River to Hartford the expense for labor as compared with the tolls, is 1 to 4½ for every five dollars and a half paid out. On freight going up the river for every twelve dollars, labor compared with the tolls, is as 4 to 2½, making on an average up and down, the charge for tolls about the same as for labor, which to say the least is unfortunate for the business of Hartford. The distance to Wells River is 190 miles and the charge for freight on a Railroad, as charged on others which have paid semi-annual dividends of four per cent, would be \$13.60—whereas it is \$15.00 up \$7.00 and down the river. If we can open facilities by which the merchant up the river can have his goods delivered early and late with certainty and in a given time, they will all come this way for their light and heavy goods together, nor would a trifling difference in expense on their light goods deter them from using a Railroad. Light goods are as essential to the transportation lines to make them profitable, as salt to the boats on the river.

It is fresh in our recollection what the state of navigation was on the river last year after the first of July, and the vast amount of property that was prevented from arriving here until this spring, altho' it was ready to come and part of it on the way as early as September and October, yet no effort of ours can overcome them, nor counteract the causes which prevent the merchants from using the river for the transportation of certain descriptions of merchandise.

Salt carried up in 1834 was not all sold until this spring, also some in 1835 was not all disposed of a few days since;—owing to the low price it was freighted across the country from Boston. These things require the serious consideration of our citizens in view of the future prosperity of Hartford as well as of the merchants engaged in the trade. Something ought to be done to arrest the emigration of our active and enterprising young men to the west where facilities for communication with the interior from the seaboard, and our great lakes and rivers, are multiplying every year.

It is probable a Railroad would only be used for carrying passengers and light freight; now if this is true, why can we not expect a rapid increase of the northern trade for all descriptions of goods, and that the river would still be used for the transportation of heavy articles of merchandize; and in fact be augmented beyond its present amount as soon as the Railroad was completed? If the proprietors of the locks and canals would consent to a reduction in the price of tolls and ration it in equitable proportion among themselves, would they not benefit themselves as much as the steamboats between here and New York did in reducing the fare from five to three dollars?

QUECHEE.

THIRD ANNUAL REPORT TO THE DIRECTORS OF THE UTICA AND SCHENECTADY RAIL ROAD COMPANY. MADE BY THE COMMISSIONER, JUNE 6, 1836.

REPORT.

To the President and Directors of the Utica and Schenectady Railroad Company.

Gentlemen—I herewith submit the following report of disbursements in constructing the road of this company, its present condition and future prospects.

1. Of Disbursements.

The total amount of monies expended by me at the last annual meeting of the board, was \$266,435 11

Since then, up to the period of my last settlement with the Treasurer, on the 30th ult., I had disbursed 698,126 13

Making a total of 964,561 24

Of this sum there has been paid, For preliminary surveys, 16,730 83 Engineering, 35,297 57

Lots purchased and appraised in the city of Schenectady, and the expenses of procuring titles, 39,382 87

Do. do. at Little Falls, 34,391 34

Do. do. at Utica, 15,237 45

Other lands, fencing,* damages

* The fencing in a great proportion of cases is to be perpetuated by the owners of adjoining lands—a covenant having been inserted in their conveyances to that effect, and an extra compensation allowed therefor.

and procuring of titles, 182,734 71

Grading, including alteration of turnpike, 324,141 87

Masonry, 62,790 73

Slope or river wall, 17,924 41

Bridges, 61,003 71

Red Cedar timber, 40,619 54

Timber other than red cedar, and exclusive of that used for bridges, 48,143 77

Superstructure of road, including transportation of materials, 34,160 14

Coaches and wagons, 18,390 32

Carriage houses, barns, shops and other depot buildings, 23,039 82

Printing, stationery and advertising, 716 06

Fuel for locomotive engines, 2,539 69

Miscellaneous expenditures, including salary of commissioner, 7,236 51

From which is to be deducted, one half the cost of the depot grounds at Schenectady, to be refunded by the Mohawk & Hudson Railroad Company, 6,375

The monies advanced on the appraisal of the depot grounds at Utica, which are to be refunded by individuals owing real estate in that city, 8,840

Fuel purchased for locomotive engines, chargeable to the transportation account, 2,539 69

And monies advanced for red cedar for the second track, 5,000

22,754 69

Leaving \$941,806 55

The Treasurer has also advanced on account of Iron, 150,084 62

Southern pine rails, 35,667 54

Locomotive engines, 25,705

And for miscellaneous purposes, 10,061 61

221,518 77

Making a total of \$1,163,325 32

With the monies thus expended, all the necessary lands, with a slight exception, have been purchased—the fencing, grading, masonry, and bridges nearly completed—the iron plates procured—nearly two thirds of the timber and superstructure for a single track paid for—and an important advance made towards engines, carriages and depot buildings.

2. Of the present condition of the Road.

With a few unimportant exceptions, the road is graded for a double track from State street in Schenectady to the terminating point at Utica, and about two thirds of the superstructure of a single track completed. Had the Oswego and Seneca canals been open as early as usual, and the navigation of the latter remained uninterrupted, so that the timber under contract could have been received within the time originally contemplated, the road would have been put in operation as early as the 15th or 20th of July. But the delays incident to this interruption will prevent the running of carriages until about the middle of August; when it is believed the whole line will be in readiness for the conveyance of passengers. Preparatory to this, five of the eight locomotive engines ordered last year will be placed on the road, and the remaining three delivered soon thereafter.—Added to which, fifty pleasure carriages, carrying 24 passengers each, and fifty wagons for the accommodation of emigrants, are nearly completed. Arrangements are also making to construct, without delay, an additional track of from 12 to 15 miles long, equi-distant from Utica and Schenectady—so that until the second track shall have been finished, a convenient passing place of sufficient extent may be afforded, to prevent any delay in the transmission of passengers. But with a business of such magnitude as already exists on the line of this road, and which must be greatly augmented whenever it is opened, it will undoubtedly be found important to complete the second track at as early a day as may be practicable. That the period of such completion should not be extended beyond another season, I believe will be admitted by all who are conversant with the amount of travel through the valley of the Mohawk.

From the unusual depth of snow which fell during the last winter, it had been anticipated that on the breaking up of the Mohawk and its tributary streams, the rail road would receive serious injury, and much pains had been taken to open the ditches and culverts in exposed localities, and guard the bridges with stone and other burthens. But the result has shown that even these precautions were unnecessary. No injury whatever was experienced; but on the contrary, the gratifying evidence furnished, that the road will always be beyond the reach of the ordinary annual freshets, and probably beyond any that will ever occur.

3. Of the cost of the Road.

The amount already expended, on account of construction as heretofore stated has been \$1,163,325 32

The estimated cost of completing the single track and putting the road in operation, is as follows:

On the first division, extending from Utica to the Nose, so called, in Palatine, about 46 miles, agreeably to the estimates of Mr. Higham, the resident engineer, \$70,850

On the second division, extending from the Nose to the Ballston road in Glenville, about 30 miles, agreeably to the estimates of Mr. Lee, the resident engineer, 33,150

On the third division, extending from the Ballston road to State street in Schenectady, agreeably to the estimates of Mr. Lake, the resident engineer, 38,707 13

Balance for engines and putting them in order, about 31,000

Do. for carriages and wagons, 37,281

Do. for timber, including the central branch of fifteen miles, about 20,000

Do. for iron, about 5,000

Engineering, 8,000

Horses, 5,000

Harness, 1,000

Miscellaneous, estimated at 5,000

254,998 15

To which must be added the purchase of the Mohawk turnpike, required by the charter of this company, 62,000

Total, \$1,480,323 47

Calls to the amount of \$1,500,000 having been made of the capital stock, no further payments from the stockholders will be necessary during the present year. The laying of a second track and an increase of engines and carriages to correspond with an increase of business, will probably require an expenditure of the residue of the capital. I have therefore, in the estimates which follow, assumed as a basis, that the road, when completed, will cost \$2,000,000. That it will not exceed that amount,

I think is evident from the expenditures and progress already made in the work.

4. Of the future prospects of the Company.

On this subject, I have seen nothing to change the opinions expressed in my first annual report. On the contrary, much has transpired to render it highly probable that the statements then made will be fully realized. If any proof, indeed, were wanted, that the travel on this road would equal the anticipations then entertained, it might be found in the great increase which has since taken place, and which must continue to increase, not only from the rapidly growing population of the west, but from the many facilities which are now in progress to render the communication between the western lakes and the Hudson river easy and expeditious. The remaining links in the great chain of railroads from the Hudson to Buffalo having been authorized by the legislature at its late session, it can hardly admit of a doubt, that in less than three years the line will be completed, and the transportation of passengers by steam effected on the entire route. Should the road from Lake Erie to the Ohio river, recently commenced, be completed within the same period, this, with the Saratoga and Washington road now in progress, will form an uninterrupted communication in the interior by steam from Quebec to New Orleans, less in extent by several hundred miles than the routes usually travelled at the present time.

Considerable pains have been taken to ascertain the number of persons who passed in stages and canal boats between Utica and Schenectady during the last year. From the packets and stages official returns have been received; but from the line or freight boats nothing of a definite character has been obtained. The collector at Little Falls, it is true, was requested to procure voluntary returns from these boats, and performed that duty as far as was in his power; but as the proprietors commute with the state at a sum in gross for passengers—were interested in withholding correct information—and were under no obligations whatever to make returns, it is evident that the statements made by them were very imperfect; especially when the number of passengers reported falls so far below the estimates of numerous persons on the canal familiar with this kind of travel. Even the collector himself is satisfied that many boats passed from which no information was received; and that from others, the returns made, and especially from those passing in the night, were much below the actual number. Still, from the information thus obtained, the passengers over 12 years of age, reported to him from the 25th of April, ten days after the navigation had commenced to the close thereof, amounted to 76,463. One of the lock tenders at the same place counted the passengers for a limited period, and fixed upon 750 as the daily average for the season—a number corresponding with the views of several other well informed persons. This number, allowing the canal to have been navigable for 220 days, made an aggregate of 165,000. The amount of lockages during

the season at the lock in charge of the tender here referred to, was 24,982, corresponding precisely with the lockages at Fort Plain, as reported to the canal board. Of these lockages, about 2600 were of packets and cribs, leaving a little more than 22,000 of freight boats. Most of these boats carried passengers, and many of them to an extent nearly equal to the packets. Supposing, however, that one third were confined exclusively to freighting, and that the remainder had an average of 10 passengers each, the aggregate would have been 146,670

The number of passengers in the packets and stages during the year was 53,560

The number passing over the turnpike in private carriages, who would take the railroad when completed, has been estimated at 5,000

Total, 205,230

Of this number, it is believed that two thirds, or 136,657, would take the pleasure carriages, and the remainder, or 68,333, the wagons.

In my first report, I gave an estimate of the annual expenses and repairs of the road. That estimate was based, in some measure, on an experiment which had been made on the Saratoga road, and a detailed report of a committee of the directors, showing the probable cost of transportation and repairs. The sum fixed by them was \$19,000; and two years experience have shown its correctness—the average expense of each year having been \$18,520 62. I am also assured by the agent of the company, Mr. Costigan, (and my own observation enables me to concur with him in opinion,) that the sum thus expended and the power employed, (in carrying freight as well as passengers,) have been amply sufficient to transport 200,000 passengers over the road—the number which I have estimated to pass between Utica and Schenectady annually. The length of the Saratoga road is 22 miles; that of the Utica and Schenectady 78. From the nature of the business on the Saratoga road, locomotive engines cannot be used economically for so long a period in the year as on the Utica road, and the cost of horses must necessarily be proportionately greater. The expenses, too, of conducting a short road bear an unequal comparison with those incurred on a more extensive route; so that four times the disbursements on the Saratoga road, or \$76,000, though the Utica road is less than four times as long, would seem to be a sufficient annual provision for conducting the operations of the latter road. But to this I have added 33 1/3 per cent., making a total of \$101,230.

The present price of conveying passengers in the packets and stages between Utica and Schenectady is \$3.50, and in the line boats exclusive of meals, from \$1.20 to \$1.50. The rail road company, by their charter, are authorized to charge 4 cents a mile, or \$3.12; but as experience has shown that a moderate fare is always attended with more prosperous results; that competition is in that way more effectually

avoided, and the prejudices existing against incorporations of this character materially lessened, it will doubtless be deemed desirable by the directors to fix upon such a standard of prices as shall accomplish these objects. In this report I have supposed the fare in the pleasure carriages to be \$2.50, and in the waggons \$1.

Allowing, then, that these estimates are within proper limits, and that the present travel through the valley of the Mohawk will be transferred to the rail road, the following abstract will show the result:

| | |
|-------------------------------|-----------|
| 136,667 passengers, at \$2.50 | \$341,667 |
| 68,333 do. at \$1 | 68,333 |

\$410,000

Deduct for annual expenses and repairs,

101,230

Leaving \$308,770

or a little more than 15 per cent. on the entire capital of \$2,000,000, admitting the whole to be expended.

In the foregoing, no allowance is made for an increase of travel, nor for the transportation of the mail, both of which may be anticipated. With no other than the present means of conveyance, the increase of passengers through the valley of the Mohawk has been from 20 to 25 per cent. per annum for several years past; and that it will be greatly augmented when this road shall have been put in operation, there can be no doubt. From the permission given by the legislature to the Syracuse rail road company to carry freight, on paying tolls when the canal is navigable, it is fair to presume too that a similar permission will be granted to this company. But I have made no account of these matters.—

The increase of travel will doubtless provide for any diversion that may take place; and the carrying of freight would afford a fair remuneration whenever the canal was closed, and the transportation of passengers limited. But without these, it will be seen, if the foregoing estimates are entitled to consideration, that few, if any roads will possess an equal value. Indeed, the great and increasing travel through this general avenue from east to west; the highly favorable formation of the country, not only for a cheap structure, but for an economical prosecution of business; and the rich and variegated scenery, of the valley through which it passes—all combine to render it morally certain that this will be one of the most lucrative as well as interesting public works in the Union.

In closing this report, I should do injustice to my own feelings, were I to omit a reference to the engineer corps in the employ of this company. Under the direction of Mr. Young, the chief of the department, aided by his valuable assistants, the road has been prosecuted in a manner highly creditable to their talents and enterprise, and with an economy unsurpassed on any public work. Indeed, the expenses of construction, notwithstanding its complex character, have not exceeded the estimates of Mr. Y. originally furnished to this board—a result as novel as it will prove gratifying to every stockholder. Excepting the purchase of additional grounds, the

erection of fixtures, and the advances made to land owners for perpetuating division fences, not then contemplated, the early pledge which was given relative to the cost of this road will be fully redeemed, and its operations commenced under the most favorable auspices.

I am, gentlemen,

With great respect,

Your obt. servant,

G. M. DAVISON, Com'r.

U. & S. R. R. Co.

June 6, 1836.

(Concluded from our last.)

IMPROVED MODES OF PREPARING CHARCOAL.

AUTHORITY.—DUMAS' *Chimie appliquee aux arts.*

In consequence of the great waste of charcoal, in the usual mode of preparation, and the entire loss of the volatile matter, two modes have been contrived, in either of which the quantity of charcoal obtained may be almost as large as in iron cylinders, and the volatile matters may be collected.

The first of these is best suited to the hard woods which contain but little resinous matter. This operation is performed in a kiln of the shape of a cylinder, or rather a truncated cone, whose larger base is uppermost. It may be built of sods or tenaceous earth above the natural surface of the soil, but may be more conveniently excavated to such a depth that the earth thrown out may serve to form the upper part of the enclosure. In the only instance in which we have seen it employed in this country, namely at the West Point Foundry, the excavation is lined with brick.

In order to admit air to the kiln, when made by excavation, for the purpose of maintaining the combustion, tubes of earthen ware or cast iron, are carried down from the surface of the ground to the bottom of the excavation; these lie behind the lining, and are either passed through it near the bottom, or enter small brick vaults, which communicate with the interior of the kiln. The kiln may be closed at top by a cover made of sheet iron, to support which when the lining is not of brick, a ring of bricks must be placed around the top of the excavation. The cover must extend on all sides three or four inches beyond the opening of the kiln, in order to have a sufficient support. In this cover there are several openings, one at the centre, the others near the circumference. Through each of these a short tube or flue of sheet iron passes, and the several tubes are furnished with stoppers of iron.

The size described by Dumas is 10 ft. (French) in diameter, and nine feet deep. The central tube is nine inches in diameter. The number of these at the circumference is four, each four inches in diameter.

That used at the West Point Foundry is 12 feet in diameter and 9 feet deep.

In order to condense the volatile matter, one opening is made in the lining near the top of the kiln to which a tube of cast iron or earthenware is applied. This tube communicates with a small chamber built of brick, about 18 inches long, a foot in width, and 15 inches high, entering about the mid-

dle of its height. From the top of this chamber, proceeds a pipe of sheet iron, which after rising vertically 4 or 5 feet assumes a horizontal direction for about 15 feet more; at this distance there is no fear of fire, and the rest of the pipe may be of wood. The extension of the pipe communicates with a condensing apparatus, on the principle of Woolf, but which may be formed of common barrels.

In charging the kiln with wood, a post whose height is equal to the depth of the excavation is set up in the middle, and supported in its place by a heap of fragments of charcoal. A number of the larger logs are chosen and laid on the bottom of the kiln in such a manner as to form radiating flues terminating at the places when the air tubes pass through the lining. Across these a horizontal layer of logs is laid. The radiating logs must neither touch the post or the lining of the kiln, the secondary layers extend from the one to the other. Layers are then placed in succession in such manner as to leave as little empty space as possible, particularly near the circumference, until the kiln is filled. The kiln having been charged, the post is drawn out of the middle, the cover set in its place, and coated to the depth of not less than two inches with dry earth.

The stoppers being withdrawn from the flues in the cover, lighted charcoal is poured down through the middle tube; this falls through the space left by the post, to the heap of charcoal by which it was steadied, and sets it on fire. The central flue is then tightly closed, in order that the draught may be directed toward the outside of the mass of wood. In order to make the joint of the stopper tight, it is luted with plastic clay. The other flues begin to discharge smoke, which is surrounded by flame. As soon as the flame ceases to have a blue color, and becomes white and clouded, the flues have their stoppers loosely applied to them, and the openings of the descending air tubes are diminished. The draught will thus be directed to the condensing apparatus. But if the collection of the acid be not intended, the tubes in the cover are but partially closed. The combustion may be regulated within the kiln by the air tubes and those in the cover. Thus, too rapid an action in any one part may be checked by completely closing the several air tubes and the opposite flue; and if it be too slow, these must be opened as far as possible until the action be restored.

For a kiln 10 by 9 the operation occupies from 60 to 80 hours, and is known to be complete when the upper layer of wood appears to be incandescent; when this has taken place, the stoppers of all the openings except that of the central flue are removed for a short time, and a quantity of hydrogen will be expelled which if does not injure the quality of the charcoal, would render it less saleable. As soon as the peculiar flame of hydrogen ceases, all the openings, both of the air tubes, and flues, must be closed by shutting their stoppers with clay, and covering them with caps of sheet iron containing clay. The dry earth is removed from the cover, and it is plastered with earth mixed

with water. The charcoal thus shut up will take 60 or 80 hours to cool.

A plan and section of this description of kiln is represented in Fig. 1, 2, 3, 4 and 5.

Fig. 1 and 2. Being plan and section of one formed in an excavation, and

Fig. 3 and 4. Of one built above ground.

Fig. 5. Cover of sheet iron applicable to either.

A. Interior of kiln.
B. Wall or lining of earth.
C. Chamber in which the tar may be condensed.

d. Pipe leading to the condenser for pyroligneous acids.

e, e, e. Air-vaults.

f, f, f. Openings by which the external air is admitted.

At the Bennington Furnace, a kiln of similar form was constructed of brick, above the level of the ground and covered by a permanent dome of brick. In the wall a door was left for the introduction of the wood and this was subsequently bricked up. Vents were formed by leaving bricks loose in the wall and when the process was complete the fire was extinguished by means of water. An unexpected benefit was found to arise from the latter operation, for the coal becoming charged with aqueous vapour, was as fit for immediate use, as that which had been prepared for several months.

It is estimated that the product of kilns of this kind in France is about 25 per cent. more than in a coal pit. The experiment at the West Point Foundry was more advantageous, the product having 50 per cent. more than was obtained in the usual method. In France the main object was the pyroligneous acid, which at West Point was neglected, and this difference in the object will account for the difference in the results. The mode of placing the wood was also different, the French using that which has been described above while at West Point it was placed vertically.

In the pine forests of Sweden, an apparatus better suited to the collection of the turpentine that kind of wood furnishes, has been invented by Schwartz. This kiln is composed of a vault, built of brick or silicious stone laid in a mixture of clay and sand. Common mortar must not be used as it would not only be affected by the heat, but would be completely destroyed by the pyroligneous acid. The vault is closed at each end by a vertical wall of the same kind of masonry. The floor of the kiln is of earth, and has the figure of two planes slightly inclined, and meeting in a gutter in the middle of the longer sides of the vault. In each end wall are two fire places, and in one of them are four openings for introducing the wood and withdrawing the charcoal. The smoke and vapour are carried off by flues of cast iron at the level of the ground, and proceeding from the middle of the larger sides of the vault; these terminate in channels where the vapour is condensed and which convey the smoke to two vertical chimnies. A section of this kiln is represented in Fig. 6.

The advantage of this arrangement is, that no air can enter the kiln without passing through the fire places which are kept

full of burning fuel; and that the fuel which is best suited for this purpose, (small branches and twigs,) is useless in making charcoal. In placing the wood, the pieces are laid parallel to the largest sides of the vault, and in such manner as to leave as little space as possible except in the neighbourhood of the flues, which must be kept free for the escape of the smoke and vapour. Two days are sufficient to convert the wood into charcoal, and the end of the process is known by the appearance of the blue flame of carburetted hydrogen at the chimnies. The whole of the openings are then closed and luted with clay.

At the end of two days, two holes left for the purpose in the arch of the vault, but which have during the process been carefully closed, are opened and water thrown in to cool the charcoal; these holes are then closed again. At the end of three or four days more, one of the doors in the end wall is opened and more water thrown in, but the charcoal will not be ready to be removed until all the external parts of the apparatus have become as cold as the surrounding air.

This kind of furnace has been much used in Europe, and the quantity of charcoal obtained is one third more than is obtained from coal pits. The turpentine and arctic acid are also saved, which in other cases are lost. There can be no doubt that it might be introduced to advantage in those parts of our country where iron is manufactured by means of charcoal prepared from pine wood.

In using kilns of either description it becomes a matter of calculation whether it be cheaper to manufacture the charcoal in the woods in the usual manner, or to carry the wood to the kiln. The weight of the charcoal to be transported will be only 17 parts of that of the wood; while the charcoal obtained by the kilns will be certainly one third more than that procured from the pits. It must therefore appear that the value of the additional charcoal shall be at least equivalent to the cost of transporting the wood to the kiln. It is also to be remarked that charcoal prepared on the spot where it is to be used is better than that which has here been handled and carried over rough roads, and that all waste is avoided.

We hand the following article over to Mr. E. F. Johnson, as he is the proper person to answer them, and both able and willing to do so as far as we can judge.

From the New York American

SHIP CANALS.—From reading the notice in your valuable journal I was induced to examine the maps of the proposed New York Ship Canals; the one accompanied with a valuable memoir by Capt. W. G. Williams, of the U. S. Topographical Engineers, for a communication around Niagara Falls. It appears that Capt. Williams estimates one route which he recommends at \$4,744,982³⁸/₁₀₀, and another route of 7¹/₂ (or 7.73) miles in length, between Porter's store-house on the Niagara river, above the Falls and Lewiston, at \$3,610,596²⁷/₁₀₀, which is at the rate of \$46,708¹⁷/₁₀₀ per mile.—These estimates were for a canal of the dimensions of 110 feet width of surface and 10 feet deep, and the lockage is stated at 319¹/₂ feet.

The Ship or Steamboat Canal surveyed by E. F. Johnson, Esq. between Utica and Oswego, is estimated for a canal of 90 feet width of surface and 8 feet deep and has 180¹/₂ feet of lockage; the distance is 92¹/₂ miles and the aggregate estimate is \$1,131,989, which is at the rate of only \$12,237¹¹/₁₀₀ per mile. I wish to inquire whether there may not be some error in this estimate? and if it be possible to construct a ship canal of these dimensions at a less sum than \$12,500 per mile? This estimate is but a little more than one half the cost of the construction of the Chenango Canal with wood locks, is less than half the cost of the construction of the Utica and Schenectady Railroad, and, if I am rightly informed, about one fourth of the cost of the Railroads that lead in three directions from the city of Boston.

We publish the remarks and queries of M, leaving the answer to those who have the requisite knowledge and disposition to give it.

We take pleasure in giving publicity to the following letter, from Mr. Beach, the Engineer who examined the route for the proposed Railroad from Morristown to Carpenter's Point:

(COPY.)

Catskill, May 20, 1836.

SAMUEL PRICE, Esq. Branchville, Sussex Co., N. J.

Dear Sir—At the request of the Board of Directors of the Morris and Essex Railroad Company and a committee of the inhabitants of the county of Sussex, composed of yourself and others, I devoted Wednesday, Thursday and Friday of last week, in the examination of the proposed route for a railroad from Morristown through Sussex county, to Carpenter's Point, preparatory to making a survey of the same, which I shall probably be able to commence about the first of June next; but supposing that you would be glad to have my views of the subject previous to that survey, I embrace the first opportunity that I could possibly devote to that object, since I saw you, to communicate them.

On my way up, I passed through Rockaway, Berkshire Valley, thence on the east side of Hopatcong Lake, to Sparta, and thence via Lafayette to Branchville; from Branchville up the North Branch of Paulins Kill, through the gap of the Blue Mountain, called Culver's Gap, approaching the Delaware River a short distance above Milford, and along the same to Carpenter's Point. Returning, a more northerly route was pursued. Leaving the Delaware at Carpenter's Point, ascending the slopes bounding the valleys of the Little and Big Flat Brooks, to Culver's Gap, from thence to Branchville, there is but one route. From Branchville, returning, two routes were examined, viz: via Lafayette and Newtor, passing at or near Andover Furnace, Stanhope, Dover, Rockaway, to Morristown; the route is, generally, a feasible one for the advantageous location and construction of a railroad. From Carpenter's Point, ascending to the summit of the Blue Ridge, in Culver's Gap, there are no difficulties to be encountered, and I am confident that, on that section, no grade need be adopted exceeding forty feet per mile, ascent, and if desirable may be

reduced below that. From the summit of the Blue Ridge at Culver's Gap, to Branchville, the grading will not be expensive, but a somewhat steeper grade must be adopted. From Branchville to Lafayette or Newton, and from thence to either Sparta or Andover, a level and cheap route can be obtained. Schooley's Mountain Ridge may be crossed from Sparta via the summit of the Morris Canal, on either side of Lake Hopatcong, to Dover; or from Andover Furnace, near Stanhope, to Dover, thence via Rockaway to Morristown, without encountering any objectionable steep grades, or very heavy expenditures in grading. Both the Blue Ridge and that of Schooley's Mountain and their vicinity, abounds with timber of an excellent quality for the superstructure of the road, which can be obtained at a reasonable or low rate. The country to be accommodated is rich in agricultural and mineral productions; it also abounds with water power, and has already numerous establishments for the manufacture of Iron in all its various forms.—There are also on the route several flouring mills, and other manufacturing establishments of various descriptions, all of which, with this road completed, will find upon it a cheap and expeditious transportation of their products to New-York market.

I am, respectfully, Your ob't. servant,
EPHRAIM BEACH, Civil Engineer.

We insert the following with pleasure. The information both as correcting erroneous statements and as furnishing details is worthy of notice. We most earnestly recommend to the attention of "speculative minds" the concluding warning of Mr. Hassler's letter.

From the Morning Courier & N. Y. Enquirer.

In your paper of May 26th, 1836, you have inserted an article entitled "*Zinc in New Jersey*," inviting to enterprise, in procuring the metal from the ore. The statements are not entirely correct. Allow me therefore, to furnish the public with better information to prevent mistaken speculations.

The pure zinc lately produced, has lain for centuries in the ore in Jersey, Pennsylvania, Maryland, (and most likely in many other parts of the country,) just as the finest marble statues are yet contained in the marble quarries of this country, needing only the artist to cut them out; but this cutting them out, enterprise and money alone will never effect; unless art also find its proper support to do it; and just as little will the speculation in money enterprise alone do it in zinc, without the necessary science of Metallurgy.

It will not only be interesting but instructive to give here the whole history of the production of the zinc in this country. As the whole was done *under my direction*, I may be allowed to be good authority in the matter.

Mr. John Hitz, Landamman, in the Grisons, (Switzerland,) a scientific miner, had many years ago produced the pure zinc from the Blende of Daros, which had never been done before, by a process entirely of his own invention, and different from all

those practised in England, or on the continent of Europe. Soon his zinc sold at double price of the common material, and covered far around the roofs of the neighborhood. But the mine ran out, as it is termed, and about six years ago Mr. Hitz removed to this country with all his family. Passing with him through Philadelphia, about three years ago, Mr. Wetherhill showed us a specimen of Blende, from which he could not produce the metal. Mr. Hitz told me the procuring the pure zinc from it would be unquestionably successful.

In the last session of Congress, the construction of standard of weights and measures for the Custom Houses was ordered, and in continuance of my former operations of comparison, I was directed by the Secretary of the Treasury, to construct the same. Brass being the metal almost necessarily used for accurate Weights and Measures, it was a primary object to procure it of pure and good quality, for which the common spelter is not fit. It was therefore proper for me, to avail myself of the presence of Mr. Hitz, (then, and still occupied in the gold mines of Virginia,) to procure the pure zinc; this was done by his peculiar method, and by properly varying the process; with equal success upon the ores from the copper mines of Perkiomen (where the blende laid about as refuse,) from the ore (Franklinite,) of New Jersey, and from the High furnace near Frederic in Maryland. The "beautiful specimen obtained"!! from all three places together, are upwards of ten tons pure malleable metallic zinc, acknowledged far superior to the imported spelter, by all the importers and workmen in that line, who have seen it.

The amount already obtained being sufficient for the particular purpose of standards, the temporary furnace built for that purpose exists no more, as I needed the materials to build a brass casting furnace.

If any one should be willing to take up the subject in such a manner as to procure to the man who invented the process, and so successfully produced the results quoted, that reward of a solid establishment which is due to his knowledge and good character, I offer to serve as a means to obtain his co-operation; but I am in duty bound to warn mere speculators from engaging without that previous knowledge, which besides they will not find in any book, and trials will be ruinous, as proved by the previous failures.

F. R. HASSLER.

Washington City, May 28th, 1836.

AGRICULTURE, &c.

From the New-England Farmer.

INDIAN CORN MADE WITHOUT TILLAGE AFTER PLANTING.

By experiment, I have arrived at some conclusions in regard to the culture of Indian corn, which I think are of importance to planters in the Southern States. I communicate them for the use of the public with great hesitation, because they are directly at variance with the received opinions on the subject.

The early part of my life was spent in agricultural pursuits—and hence, if there were no other reason, I feel a deep interest in every thing relating to agriculture. I noticed, very early, the great difficulty in

transplanting successfully the young corn plants. Whence comes this, but from breaking the roots in taking the plant up? How is it then that intelligent planters affirm the doctrine, that one chief object of ploughing corn, is to cut its roots? If breaking the roots of young corn in transplanting it, is really fatal to its future growth, must not breaking its roots with the plough, when it is older, and the season hotter be a serious injury to it? Any other conclusion seems to me to be at variance with the general economy of nature. It seems to me that there can be in truth, but two reasons for ploughing or hoeing corn—1st, to destroy grass and weeds; and 2d, to keep the soil loose, that the roots may penetrate easily, in search of their proper food. But in accomplishing these two purposes, great injury must be done to the corn, by breaking its roots. Can we not accomplish both these ends, and at the same time keep clear of the attendant mischief? I think we can.

Last spring I planted a small piece of poor ground—first breaking it up well. The rows were made three feet apart, and the stalks left about a foot apart in the drill. The ground had been very foul last year with crab grass, whose seed matured. The corn was not well up this spring before the grass began to appear. When the corn had about four or five blades, the young grass completely covered the ground, and the corn was turning yellow. I spread a small quantity of stable manure around the corn, and covered the whole ground three or four inches deep with leaves from the forest, taking care to do this, when the ground was wet, and the leaves also, that they might not be blown away, and to leave the tops of the young corn uncovered. In ten days there was not a particle of living grass to be found, and the corn had put on that deep bluish green which always betokens a healthful condition of the plant.

From the day the corn was planted until after the fodder was pulled, and the tops cut, nothing was done with it, and the result is a product at the rate of forty-two bushels to the acre—about one-third of the stalks having two ears on each of them.

I noted, in the course of the summer, the following facts:—

1st. The corn created thus, was always ahead of some planted along side of it, and treated in the usual way.

2d. It ripened at least ten days sooner than other corn, planted at the same time.

3d. During the hottest and driest days the blades never twisted up, as did other corn in the neighborhood.

4th. In the driest weather, on removing the leaves, the ground was found to be moist to the surface, and loose, as deep as it has been at first broken up.

5th. The heaviest rain had scarcely any effect in washing away the soil, or making it hard.

It certainly will require less labor to produce corn in this way, than in the usual mode. And even if it required more, we have the consolation to know, that while, by the old mode, every hour's work is an injury to the land, by this mode, every hour's work is making the land better; for few things can be better manure than the coating of leaves put on in summer, when ploughed in the winter and spring following.

I used leaves raked up in the forest, because of these there is an ample supply within the reach of almost every person, and to use there seems, from my observation, to be a strong antipathy between dead, and decaying forest leaves, and crab grass, that most harassing foe of agriculturists.

I make this communication, as I have already said, with hesitation, because the idea of raising corn without ploughing and hoeing, and at the same time improving the land, by protecting it against the influence of a scorching sun and washing rains, is so directly in the teeth of the universal practice for ages. The thing is, however, at least, worthy of further trial. It may lead to most important results.

Those who think the plan worth any attention, may easily make an experiment with an acre or two, and note carefully the progress through the summer. If they are satisfied, after the trial, that there is any thing in it, to extend the operation will not be a difficult matter.

If, on experiment, it should be found advisable to extend the operation, the proper way would be, I think, to collect the leaves in winter, and deposit them in heaps on the ground on which they are to be used, and the next spring during a wet season, after the corn is up, spread them, taking care to leave the tops of the young corn uncovered.

There is one very important result that must follow the success of this plan on a large scale—and it was with an eye chiefly to that result, that my experiment was undertaken. The constant excuse for not improving our land, is, that where cotton is grown, the time necessary, first to cultivate the growing crop properly—next to gather it, and then to prepare for a new crop, leaves the planter no time to collect manure. My plan will be to put an end to that excuse at once; for where leaves are to be had, half the time usually bestowed on working the corn crop in the usual way, spent in gathering leaves and putting them on the ground, instead of ploughing it, may in a short time accomplish every thing that can be desired in the way of manuring.

Why may not the same process answer in the cultivation of cotton? If it keeps the ground soft and moist, and prevents the growth of grass and weeds in a corn crop, it will surely have the same effect with cotton—and be the means, further, of preserving the cotton, when the bolls open, from all the injury it sustains from the soil in wet seasons. This is, however, but speculation. Let it be tested by actual experiment.

JAMES CAMAK.

Athens, Ga. October 10, 1835.

From the Farmers' Register.

THE SEASON AND STATE OF CROPS.—From all the accounts before us, public and private, it is inferred that the wheat crop throughout Virginia, will fall short of half of an average crop—and that the whole wheat crop of the United States will be not much better than that of Virginia alone.—We subjoin in extracts from private letters, many of the facts that have reached us; but none of these, except the one from Halifax, Va., even refer to the latest and worst calamities, caused by the inundation of most of the rich and extensive river bottoms of Virginia and North Carolina. The great source of injury to the wheat, and which was anticipated as far back as last October, and expected then to be unusually destructive, was the Hessian fly. In addition to this, and to other minor evils, the very wet season latterly has done great damage, either by filling the soil with water, or entirely overflowing its surface. In the latter part of May, and first half of June, there were 21 days in succession, on which more or less rain fell—and some of these rains came in floods; and even since the close of this uninterrupted series, there has been

an unusual quantity of rain. On high land, the usual estimates of crops expected, vary from one fourth to three fourths of an average. In some fewer cases, they are worse and better than these ordinary extremes, varying from nothing worth reaping, to nearly a fair product. Of the latter cases, very few have been heard of—and those not very lately. From the newspapers, we learn that in Buckingham and the nearest adjacent counties, the wheat was tolerably fair, and near Wheeling, still better; if so, these are the only parts of Virginia as much favored, of which we have heard. On our own farm, we cannot estimate the crop of wheat at more than the fourth of what the land could produce; and where the damage from the fly was the least, and the general growth the best, there the damage was the greatest from *scab*, or empty or dead parts of heads. The quality of the grain will be very bad.

But the rich bottom lands on our rivers have suffered most. These have all been covered by freshets, and to unusual depths. The Roanoke bottom lands have suffered most. The wheat there is almost entirely destroyed, as well as all other crops—and the soil itself, in many parts, has been carried off by the floods, so that the damage to the land is even of more amount than the entire loss of the year's crops.

Two more days (the 25th and 26th) have passed since the foregoing remarks were written, and on both rain has fallen profusely and heavily; the consequent increase of damage to the wheat will be necessarily great. Where ready for the scythe, it must be much beaten down and tangled by the heavy rain of last night; and where still green, there is danger of the rust coming to destroy much of the quantity and value of the small product previously expected.

June 27th.

RURAL SCENERY: THE THATCHED COTTAGE. BY JUNIUS.

There are but few objects in landscape scenery that form a more rural characteristic than the "thatched cottage," by the side of a wood, which serves to protect it from the cold winter blast, and has the effect of a shady retreat for summer. To impart to the traveller pleasing ideas of the fertility and domestic comforts, blended with rural economy, of the country through which he passes, is, perhaps, one of the very best criterions of his opinion of the more rapid improvement and increase of the value of property; and the 'cot' spoken of is one of the sure features to attract his particular attention.

There is something about a thatched cottage which is always inviting, and reminds us of the comforts of life. I disagree with Dr. Johnson, who deems all things of a rustic nature, as the abode and choice of the unrefined; or, in plain words, expressive of rudeness in every degree.

I very much doubt if the greatest monarch is more intelligent, oftentimes, than those who dwell beneath a cottage of thatch; nor are his domestic comforts any more elevated or constant than the cottager, although fame extends his name to a more distant part, where rumor often falsifies his real character. The cottager rarely has any thing to fear on this subject, as his only object is to make home agreeable to himself and its inmates; and this effect being observable to the passer by, it engraves on his memory the *snug* appearance of the thatched cottage.

Snugginess is not altogether the only feature displayed in such dwellings, but there is a character of retirement, blended with hospitality. By general observation, it will be seen that the sites of such dwellings are well chosen where the requisite comforts for domestic purposes are of easy access. Shelter and shade are the first consideration in this case, and are a grand feature, namely, the fine impression given on landscape scenery. The rustic construction of the cot is always pleasing when we can see natural materials in every way made useful, and not too much transposed into something, of which all recollection of its primitive state is lost, to appearance. The thatch, being of straw, reminds us of the utility it has been in another way—when this bearer of grain; and the rude unhewn post of the porch (on which twines the honeysuckle) of the use of forest trees. The plan of the cot is mostly neat, and generally in the Gothic order, with the upper windows peeping out of the thatch. The approaches and appendages are always corresponding. The rustic arbor well covered with native grape vines that give a natural effect, and impart a luscious reward to the humble pruner. The approach is generally converted into neat and well kept flower-garden, which gives a healthy employment, or rather recreation, to an aged mother or some rosy cheeked prattling children, who are often seen strolling from their plot in quest of flowers to decorate the little parterre, transplanting them with care to their new habitations among, perhaps, some delicate exotics.

The vegetable garden, well filled with esculent vegetables and fruit, with a small orchard and meadow, are often appendages to the "thatched cottage." A running stream or brook in its vicinity gives a mellowness to the scene, and some rich verdant spots near the dwelling forms a part, of social effect, but seldom rivalled in landscape scenery.

Were I to choose a dwelling for retirement, when age wears off that activity and zeal from a life of bustle and business, it should be the cot above spoken of; not, gentle reader, that I would be conspicuous at that time of life, but because it would suit my desire. The wood would be a pleasing source for my researches of botanical specimens of native plants, and the trees and shrubs about my dwelling a fine retreat for the different kinds of birds which would visit my 'cot,' as their migrations suit their approach in the neighboring wood. The honeysuckle would impart, in the flowering season, a luscious repast to the little queen of birds—the humming-bird; and my flower-garden would serve to amuse my leisure hours in healthy employment. The fruit, raised by my care, would add to its flavor, and some to give to a friend, to friendship. A few choice books for my amusement, and to recall what had been seen and done in horticulture; and, at times, to read to relatives and friends, who should always find hospitality in my rustic manners, and the welcome repast of the wearied traveller, sums up my desire of a thatched cottage.

JUNIUS.

New Jersey, April, 1836.

From the New York Farmer.

QUESTION—Where you bound, stranger?

ANSWER—I am going to the Far West, sir.

Since my last which was written on my journey to Pittsburg, I passed some time in that flourishing city which approaches much nearer Birmingham in England, than you

would suppose any thing in this new country could; I descended the Ohio to Wheeling when I took the national road which is now completed to Columbus 74 miles from Wheeling. The country through which it passes until you reach Zanesville, is quite a hill and dale country, the farmers turning their attention to raising Tobacco, and some have large flocks of sheep, to the raising of which the soil appears peculiarly well adapted, that animal thriving much better on high and dry lands. After passing Zanesville, the country is more level and alluvial, the canal connecting the Ohio and Lake Erie, 300 miles in length, is very productive and the lands bordering have risen much in value, large entries of State and United States lands have been made in Ohio the past year, and the wealth of this State is increasing probably faster than any State in the union. Columbus the seat of government, is beautifully situated lying on very high land, the public buildings are numerous and what is particularly gratifying to the traveller, the public accommodations good particularly Noble's Hotel. As many of your readers are emigrating West, and as they generally prefer stopping short of "the far West" preferring Farms partly brought to a state of cultivation to those which are at less price and untouched, I will close this with statistical information of Ohio, and in my next give you that of the adjoining State of Indiana, hoping it will prove acceptable to your readers.

Ohio was organized as a State in 1802, though the first settlement was commenced at Marietta in 1789 by Gen. Putnam, and 46 six other hardy and enterprising individuals from Massachusetts, Connecticut and Rhode Island.

The river Ohio gave name to the State, although Historians do not agree as to whether Ohio means Beautiful River, and taken from the French explorers or Bloody River as the Indians designated it, at any rate it is a beautiful name for River or State.

Ohio contains an area about 200 miles square, being about 200 miles in extent from North to South and from East to West, being bounded north by Michigan and the Lake, west by the State of Indiana, and east and south by Pennsylvania and the Ohio river. The population may be safely set down as one half million of souls.

Literature is very flourishing. There are eight Colleges in this State besides many Academies and Literary Societies, Lyceums, &c.

Also a Deaf and Dumb Asylum, Medical College, &c. There are also upwards of one hundred newspapers printed in this State, a large proportion are published semi-weekly.

Canals and Railroads are constructing in various directions, as a very liberal policy seems to have been entertained towards works of this sort for some years.

There are also upwards of twenty Banking Institutions that are as well managed as Banks can be, and whose notes pass currently in all the adjoining States.

It is stated by an intelligent gentleman conversant with the fact, that Ohio enjoys one hundred and ninety miles of ship and steam boat navigation on the Lake, and four hundred thirty six miles steam boat navigation on the Ohio. These great local advantages, united with a soil abounding in every production and luxury of life, must inevitably give Ohio at no distant day, if not the first, at least the second rank in the United States. The climate is warm and salubrious. The people remarkable for their observance of the Laws, and particularly for the spirit of industry that seems to exist in every section of the state.

Yours truly,

B. P.

From the New-York Farmer.

HAY AND HAY MAKING—BY H. C.

The season of hay cutting is just at hand. An operation so simple as that of cutting and curing hay every farmer feels that he understands, and would disdain on this subject any attempt to advise or instruct him. Be it so; the wise are glad to examine any subject, on which it is possible discussion or inquiry may throw some light; correct prejudices, or suggest new and better means of management; the wise in respect to any and every subject are never too wise to learn; and though our own observations or suggestions on any subject may have no just foundation, no reasonableness, and no pertinency, they may be useful if they excite the inquiries and elicit the observations of wiser or more experienced minds.

Hay making must be set down as one of the most important operations in husbandry. Hay with us is the great means of supporting our live stock. Our straw is principally used for litter or the subsistence of our young cattle. Grain and meal are always given with reluctance, excepting to fattening cattle; and comparatively no succulent vegetables are grown for the winter keeping of our stock. It is hoped in this latter case there may be a speedy alteration in the habits of our farmers; and that it will become as much matter of custom among our farmers to raise large crops of vegetables, with which to store their cellars as large crops of hay with which to fill their barns. Common white turnips, though very little in favor with us are a valuable crop both for sheep and neat cattle. The yellow varieties are still better, as they are more solid and retain their good qualities much longer. The ruta baga is a most excellent vegetable for sheep, cattle and horses. Potatoes, carrots, mangel wurtzel are all excellent. An agricultural friend well qualified to judge informs me that he prefers to all others the common blood beet. He asserts that according to his own experience, it is as sure a crop as any other; that it yields as much to the acre as any other; none will make more milk or put on more flesh; none if properly taken care of will last longer; and none of equal value is raised with more ease or at less expense. My own experience in their cultivation and use disposes me to give almost entire credit to all these statements.

It would seem to be most important to

the health of our animals, especially considering the length of our winters and the time during which they are confined to the stall, that they should have green and succulent food to mix with their dry; and that dry especially not of the best quality. Certainly very much of our hay is spoiled in the getting—it is cut not at the right time. It is made either too much or too little; so much as to become too husky and dry or so little as to be heated and mouldy; in either case much of its nutritive power is lost; and though it may sustain life, cattle by the use of it lose their condition and become diseased; poor, hide-bound, costive and consumptive.

The time when hay should be cut is a matter not well settled and in which farmers in different places differ with each other. Different grasses ripen at different periods; and with some the season of flowering continues much longer than with others. It is ascertained likewise by chemical analysis that grasses at different periods of their growth yield more nutriment than all others. What in some parts of the country is called the English Bent, a fine and delicate grass must be cut very early or it becomes hard and wiry. Herds grass or Timothy in order according to the experiments of Sinclair, must be allowed to reach an extreme ripeness in order to yield the greatest amount of nutritive matter. We have some incredulity in regard to the statements respecting this latter grass and some hesitation whether these experiments, though highly exact and instructive, are to be considered conclusive as to the actual value of these grasses for feeding; and should deem some exact experiments with the cattle themselves made under favorable circumstances and by skilful and careful observers, much more decisive.

The time of cutting for most grasses is when they are in flower. If cut before this they waste greatly and have little substance; and if suffered to stand long after this they lose their succulence. It is advisable in this matter to be early rather than late; and to cut before the plant is exhausted by flowering or by forming seeds. It is then in the highest perfection. The time for cutting clover is longer than of other grasses as it continues longer sending out a succession of flowers; but I am decidedly of an opinion that the sooner this grass is cut after it comes into flower, the better, as it is so apt to lodge and to become mouldy at bottom.

On the subject of the time of cutting grass I am happy to quote the opinions of a very able writer. "This rule of cutting grass, when it first comes into flower applies to every species of herbage, which is to be dried for winter food; but to coarse hay the produce of wet or marshy grounds, it is strongly applicable; for most of the plants, which grow in these situations, when they are in full vigor are as tender, and contain perhaps as great a proportion of nourishing juices as any other description of hay; and when cut at that stage and properly managed afterwards, form a valuable article of food both for sheep and cattle; but when the cutting is delayed, as indeed it very often is, till an advanced period of the season, when the plants have not only reached their ultimate growth, but begin to decay, this description of herbage becomes at once the coarsest and least nourishing of all food. This opinion does not proceed upon theory; but upon the solid grounds of experiments carefully made upon different kinds of herbage, at different

periods of their growth, the result of which establishes a fact which cannot be too generally known, viz: that plants of all sorts, if they are cut when in full vigor, and afterwards carefully dried, without any waste of their natural juices either by bleaching with rain or exhalation, contain weight for weight, a quantity of nourishing matter nearly double what they do, when allowed to attain their full growth; and make some progress towards decay." These opinions are stated with great confidence; and are entitled to much consideration; and so far as they apply to our wet meadows deserve particular attention, since the cutting and curing of these grasses receive very little care; they are left standing generally until very late in the season; and the hay from them commonly is almost worthless, excepting for litter.

"In the survey of Perthshire, Eng. it is stated that as the great object of making hay is that of preserving as much of the natural sap as possible, the proper time for cutting it is when the crop of grass has attained its highest degree of perfection; when the plants are in full blow, and before their flowers begin to fade. If cut too green the hay shrivels and loses much of its bulk; if allowed to stand till the seeds are ripe, the stem becomes hard and wiry; the roots lose much of their natural sap; the aftermath is less abundant; and the principal part of the hay is in danger of crumbling away into short stumps, under the various operations which it must undergo. Better to be too soon than too late, especially if the crop be heavy and in danger of lodging."

"With clover the best time for cutting it is when the flowers are all fully blown and the earliest begin to turn brown. If allowed to stand longer, the roots of the stalks lose their leaves, and become hard and sticky; and the plant is so much exhausted that it takes a long time before it sends up new shoots."

"With respect to curing hay it is important to put it into the barn in as green a state as will possibly do and avoid its heating and becoming mouldy. In this way it best retains its succulence and flavor; and the nearer in both these respects it approaches to grass in its green state, so much better is it relished by all kinds of stock, and so much the more nutritious it undoubtedly is. The best farmers, on the Connecticut river, and where they extensively engaged in the feeding of cattle, have within a few years been accustomed to put their hay in the barn in a very green state and after a slight making. They deem it of the first importance that it should have no foreign dampness adhering to it either of dew or rain; but they do not object to its healing slightly in the mow from the fermentation of its natural juices. They are of an opinion that this even renders it the more palatable for the cattle; but wetness either of dew or rain is altogether injurious to its quality: produces sourness, and mould, and renders it innutritious, unfit for the use of cattle; and extremely pernicious to horses. The English farmers think their hay is better for a slight heat in the stack."

Two things in the curing of hay are to be particularly attended to. The first is to secure it from wet. The effect of wet upon hay is like the effect of water upon tea, to extract all its strength and flavor. For this reason the practice of some farmers of mowing in the rain by way of saving time, and suffering the hay to remain wet and entirely saturated with water in the swath,

under the impression that it would suffer no injury though it should remain so twenty four hours, proceeds very erroneous opinions; and is to be strongly condemned.—The practice likewise of cutting grass when a heavy dew is upon it, is, on the same grounds to be disapproved, excepting that in this case that it is very soon stirred and shaken. We should prefer, excepting that we might sometimes find that it compelled us to the loss of too much time, never to have a swath mowed but when the grass and ground are perfectly dry. The grass is not mowed so easily when dry as when wet. It requires more strength and the edge of the scythe suffers more; but the grass, which is cut when perfectly dry and the ground under it likewise being perfectly dry and warm, is made with so much more quickness and ease, that this consideration, which will go far to balance the supposed or actual advantages in the other case.

The second important point is to avoid getting the hay too dry and stirring it so much as to shake off the leaves. These constitute the most palatable and nutritious part of the hay; and this is particularly likely to happen in respect to clover, which if very much dried and shaken becomes little better than so many sticks. Clover can be well cured in cocks, without any turning, but that of reversing the heaps.—This method has been often tried and with entire success. Salt is always to be applied in these cases at the rate of a peck to a load; and to all English hay the addition of salt to the amount at least of four quarts to the load is always to be recommended.

Spreading out, as it is termed, is an operation that should be done by a most careful hand. Clover hardly admits of this when green, and, if attempted when dry, the best parts of the hay are sure to be shaken off. Other kinds of hay however, cannot after mowing, be too carefully opened and too evenly spread; not a matted handful should be left that is not thoroughly separated and shook out. Hay at night, if it can be done, should never be left in swath or in windrow; but put up at first in small cocks and afterwards made with no more shaking about and spreading than is absolutely necessary to dry it. We have already extended this article beyond our intentions and yet have not exhausted it.—We commend it to our brother farmers, not presuming that we can instruct them; but hoping that we may at least draw their attention to a subject of great importance in husbandry; but which we think has by no means as yet received sufficient consideration and care.

MODE OF WEANING AND REARING CALVES BY A NORFOLK FARMER, ENG.—Mr. Whitley of Wallington did, between the first of December, 1776, and April, 1777, wean and rear on his farm ten cow calves and thirteen bull calves, by the method following: At three days old they were taken from the cows, put into a shed and fed with fle (skimmed milk) allowing three quarts to each calf morning and evening. When a month old, they were fed with a like quantity of milk and water, morning and evening, with hay to feed on in the day time; and at noon they were fed with oats and bran equally mixed, allowing half a peck to one dozen calves. At two months old they were fed only in the morning with milk and water; they had hay to feed on in the day time, and at evening instead of noon, had the same quantity of bran and oats with

water to drink. They were fed in this manner until the middle of April, when they were turned out to grass all day; and taken into a shed at evening; and fed with hay until there was plenty of grass and the weather grew warm. Such of the calves as were weaned in March were continued to be fed with milk and water, every morning until midsummer. All the said calves are in good health and condition; and the Society allowed the premium offered on that head the preceding year.—[Bath Soc. Papers.]

Rearing Calves, 1789.—In the year 1787, I weaned seventeen calves—in 1788, twenty—and in 1789, fifteen, do. I bought in 1787 three sacks of linseed. I put one quart of seed to six quarts of water, which by boiling ten minutes, became a good jelly; this jelly is mixed with a small quantity of the best hay steeped in boiling water.—Having my calves drop at different times, I did not make an exact calculation of the expense of this hay tea; but of my sacks of seed I had better than two bushels left at last, I gave them the jelly and the hay tea, three times a day; to the boy who looked after them 6d a day; the price of the linseed was 4s. 6d. stig. per bushel; the whole three years seed 2l 5s. My calves are kept in good growing state; and are much better at this time than my neighbors, who are reared with milk; they do not fall off so much, when they come to grass.—[Bath Soc. papers.]

From the American Gardener's Magazine.

OBSERVATIONS ON THE CULTURE OF THE PLUM, WITH REMARKS UPON THE INSECTS INFESTING THAT TREE. BY MESSRS. C. AND A. J. DOWNING, BOTANIC GARDEN AND NURSEY, NEW-BURGH, N. Y.

The plum in some of its species, as the beach plum, (*Prunus littoralis*) and the Chicasaw plum (*P. chicasa*) is indigenous to many parts of the United States, but the fine cultivated varieties, now so abundant in our gardens, have been produced from an eastern species (*Prunus domestica*), probably first introduced into Europe from Syria.

The cultivation of the plum in the Middle and Eastern States is exceedingly easy. The soil best adapted to that purpose is a moderately strong, light and dry loam; moist soils predisposing the tree to disease, and rendering it unfruitful. Gravelly and stony soils, though generally considered rather unsuitable, will be found excellent if the trees are planted in orchards, and receive that care in cultivation, peculiarly proper for such situations.

The plum not requiring walls in this climate, but growing with great luxuriance as an open standard tree, needs but little skill in pruning; the head of the tree should by no means, however, be permitted to become crowded with branches, but by judicious trimming, be kept open to the genial influence of the sun and air. Pruning, in the plum, as in all other stone fruits, should be performed while the branches are small, as the exudation of gum is induced by lopping large limbs, and the wounds heal with difficulty. To those persons who feel lost in the labyrinth of a modern catalogue of fruits, the following selection of plums, of first rate ex-

cellence, for a small garden, may not be unacceptable.

| | |
|--------------------|--------------------|
| Yellow fruited. | Green fruited. |
| Washington, | Green Gage, |
| Coe's Golden drop, | Imperial do. |
| Drap d'or, | Flushing, do. |
| Yellow Gage. | Luscomb's Nonsuch. |

Blue or Purple fruited.
Reine Claude Violette, or
Blue Imperatrice,
Kirk's,
Imperial Diadem,
The Reine Claude Violette, or purple gage, is one of the most delicious of plums. The Blue Imperatrice is excellent, and keeps a long time after ripening. Coe's Golden drop and the Washington are very large and luscious fruit; and the Nectraïne and Kirk's plum, are very beautiful, of large size, and fine flavored. The Azure Hative may, in addition to the above, be recommended as a very early variety, and the White Magnum Bonum, or egg plum, as being suitable for preserving.

Diseases of the Plum.—The plum tree is subject in this country, in many districts, to the attacks of two or three insects which commit great havoc in their respective methods, and which, owing to the culpable ignorance or negligence of cultivators, are permitted to increase and disseminate themselves, *ad libitum*. The first and most troublesome of these visitors, is the *Curculio nemophar* of Herbot.* It is a small winged insect, scarcely a fourth of an inch in length, furnished with a sharp rostrum or bill, with which it pierces the embryo fruit as soon as it is formed in the expanded blossom. Though the insect itself is too inconspicuous to attract the eye of a careless observer, amidst the countless myriads of ephemeral winged creations of a spring day, yet the watchful horticulturist may discover it in great numbers flitting about in the trees, while yet laden with blossoms, and puncturing the newly formed fruit to deposit the egg which is to continue its race. These punctures may first be discovered when the fruit begins to swell, and when it has attained half or a fourth of its size; they are very distinct to the eye, remaining in the form of a crescent-shaped scar, upon the surface of the green fruit. The egg in the mean time hatches, and the larvæ silently works its way towards the stem of the fruit, which, as soon as it has reached that point, falls from the tree. The whole crop is in many cases where the careless cultivator has suffered the annual increase of the *curculio*, drops in this manner prematurely from the tree, to the great mortification and astonishment of those persons unfamiliar with the habits of the insect race, who can see no cause of such a destruction of fruit. When the fruit has fallen to the ground, the grub or larvæ, obeying the instinct of nature, after a short time, leaves the now useless and decayed plum, and finding its way into the soil, remains there at some depth below the surface, to come forth in the succeeding spring, in its winged state, to go through its little round of existence again.

*RYNCAHENSUS ASI Peck

Countless remedies have been proposed for the mitigation of the evil, caused by the *curculio*, which are directed to the destruction of the insect in a winged state, when engaged in perpetrating the mischief, whilst the tree is yet in bloom: but there is but one easy, certain, and efficacious method of putting a stop to its ravages, viz., by destroying it in the larvæ or grub state after it has fallen from the tree, and before it has left the fruit. In plum orchards nothing can be more easily accomplished.—The cultivator has only to turn in his swine, and allow them to devour the fruit daily as it falls from the tree, and every insect will perish. This has been tested repeatedly, and with uniform success. The *curculio*, though a winged insect, is scarcely a migratory one, seldom leaving the neighborhood of the tree under which it emerged from the soil, and it has been found that, of two trees standing in adjoining gardens, one of them was attacked, and the fruit destroyed, whilst the neighboring one, when pains had been taken to destroy the insects, remained laden with a beautiful crop. In small gardens, therefore, when the number of trees is limited, it would well repay the trouble of gathering up and destroying the green fruit, as in a short time, the whole brood would be exterminated. It should be observed that when the soil has been trodden hard, when it has been paved underneath the branches, or in situations where the tree has inclined over a sheet of water, the larvæ of the *curculio*, not being able to find its way readily into the soil, perishes, and the trees bear abundantly. This is obviously the reason why the trees in the hard trodden or paved yards of cities, often yield such surprising crops—and the amateur horticulturist may draw a useful lesson from this fact.

Another most troublesome malady to which the plum is liable in some parts of the country, is commonly known by the name of the *knots*. It exhibits itself in the form of rough black excrescences upon the branches, of various sizes, from the scarcely perceptible swelling, to bunches of the size of the fist. If permitted to extend itself, it soon covers the whole tree, apparently disseminating its poisonous influence by the medium of the sap through the entire individual. On dissecting an infected branch, the wood and bark, in the discarded part, is found black and dry, and the whole vegetable substance is changed in appearance; if long diseased, the conducting vessels are dead and dried up, and this malignant influence may be seen extending itself upwards, first visible in the pith, and afterwards in the heart-wood, until the whole branch is destroyed. Upon opening these protuberances carefully, at a certain season of the year, the close observer will detect the larvæ of an insect of the weevil family, and which Professor Peck believes to be the same insect (the *curculio*) *Rynchaneus cerasi*, which attacks the fruit—he having reared it from the grub that inhabits the excrescences of the cherry tree.—But we are inclined to believe this insect another and a totally distinct species, and shall endeavor, the present season, by rear-

ing and placing it in the hands of some skilful entomologist, to set the matter at rest. Practically, however, this knowledge is, perhaps, of no great consequence, as it is known that the larvæ leave the diseased branches in July, and a knowledge of this single fact should be sufficient to impress upon the horticulturist the necessity of cutting off and extirpating (burning is the best method), entirely, all those branches which show the least symptoms of disease, before that month commences. In this way the insect may be wonderfully diminished in numbers, and probably entirely subdued.—The branches of some kinds of plum (fortunately the least valuable, as the horse plum and the damson) seem to be sought in preference, by the insect, when depositing its egg; but if its ravages are permitted to extend unchecked, the other and more precious varieties will also fall a prey. To so great an extent did the damage caused by this single insect spread, about thirty years since, in some parts of the State of New-York, that scarcely a plum tree survived the disease, owing to the ignorance of its habits prevalent among the cultivators at that time.

There is but one more insect which is generally destructive to the plum tree in America—the borer (*Egeria crixiosa*, Say), which attacks also the peach tree, and other stone fruits, just below the surface of the ground. The eggs of this insect are deposited in the bark of the tree, close to the earth, and the grub, upon hatching, penetrates further down, and bores its way around the trunk, and if undisturbed, completely destroys the alburnum, or young wood, and ultimately causing the death of the tree. As these larvæ are always found in a particular place, technically called the *neck* of the tree, just below the surface of the soil, the proprietors of extensive peach orchards have found it the most effective and speedy method of extermination, to examine their trees every fall, removing the earth two or three inches deep, and upon the appearance of gum (a sure symptom), searching out and destroying the larvæ, with a knife for that purpose. A laborer, with trifling practice, will examine a great number of trees in a day, and with this slight annual care, whole orchards are, so far as the borer is concerned, preserved in most vigorous health. From successful practice, we cannot but think this the most unfailing method with the plum also.—Boiling hot water, poured around the trunk of the tree, will, without any injury, in many cases, destroy the larvæ; and soap-suds have been recommended for the same purpose. The public prints abound, lately, with accounts of the efficacy of a deposit of coal ashes around the trunk and roots of the tree, but we need some further proofs of the value of this remedy, before placing much reliance in its virtue.

Yours,

C. & A. J. DOWNING.

Newburgh, N. Y., April, 1836.

From the New-York Farmer.

"BURLINGTON, N. J., WEEDING HON."—We are indebted to Mr. Thomas Collins, of Burlington, N. J., for specimens of the

above named hoe. To us they appear well calculated to answer their purpose; and we shall be pleased to exhibit them at all times to those who may desire to provide themselves with similar utensils of the very best kind.

We give the description in his own language.

Mr. T. Collins, takes the liberty of presenting to Mr. D. K. Minor, a set of "Burlington Weeding Hoes," and recommends the kind, from several years experience, as the best he has seen. Their principal use is for destroying weeds while small: in the hands of an experienced gardener, they make great despatch. Narrow sawblades, of the best quality as to temper, should be used; and the holes for rivets should be punched through the sawplate *without heating*, in order that the temper may not be injured. The thinnest sawblades are to be preferred, as they can never be very dull, and may the sooner be sharpened. Half worn "bucksaes" will answer for this purpose.

Burlington, July 4th, 1836.

Extract of a letter dated Columbia Pa. 18th June 1836.

As to the crops, you have probably received accounts from different parts of the country. In this county (Lancaster Pa.) we shall not harvest one eighth of a crop of wheat throughout the county, by the Fly attacking it in the fall, and at two different times this spring. We have not had so poor a prospect within the recollection of the oldest inhabitants. Some thirty years back, they say the Fly was bad in some fields, but this spring it is much more general. Rye has been injured very much by the long continued spell of wet weather, being in flower and much of it lodged and now rotted; corn much cut off by the cut-worm and planted twice, and some the third time not all up yet, which will probably not ripen, many fields however, have escaped and look well. Oats, Barley and Grass, look very favorable.

Respectfully yours, &c.

J. B.

From the New-York Farmer.

The Elms, Throgs Neck, June, 1836.

To the Editor of the New York Farmer.

Sir—If you think the following statement of the produce of a Cow worth inserting in your valuable Magazine, you can do it.

The cow is of the short horn Durham breed, a twin, her dam having had twins three times in four years, she is a bay, her sister pure white, now in possession of my neighbor Mrs. Post. My cow calved on the 16th March, her calf remained from her 19 days, raised on the skim milk, until my other cow came in on the 20th April. The produce of butter was in that time, say 35 days, 54½ lbs., and two butchers, although not sold to kill, pronounced her the best and heaviest calf they had seen that season. I will only observe, I keep but two cows and they are kept and feed in the yard.

Yours respectfully,

THOS. ASH.

The above remarkable account of the

produce of a short horn cow is furnished us by Mr. Ash of Westchester county. There are few such, either as a breeder or a milker.

CASHMERE GOATS.—We copy from the cover of the May number of the Farmer, the short notice in relation to this beautiful animal. We expected to have had an engraving and more full account of the animal for this number.

From the May No. of the New-York Farmer.

CASHMERE GOATS.—We were invited, a few days since, by Mr. J. DONALDSON KINNEAR, of Albany, to view a Cashmere Goat. Mr. Kinnear, through the aid of relatives in France, purchased a pair of these beautiful and rare animals, from a gentleman who owns the only flock in France; and they were brought from Paris to Havre in the Diligence, and there put on board of one of the packets, but from some cause, the voyage was too much for the buck, which died, as well as the young kid, which was added to the family on the voyage. The doe, however, survived; and although very lean, is a beautiful animal; being, as we were informed, the first ever imported into this country, will, we hope, be the first of numerous flocks which shall in a few years cover our hills; and we trust that Mr. Kinnear may soon replace his loss, and be successful, in rearing a flock which may be profitable. Why may we not, in a few years, manufacture Cashmere shawls, as well as silk? We MAY—and shall do it—and compete with the foreign manufacture in this as in every thing else we undertake.

From the Maine Farmer.

BUTTER.

MR. HOLMES:—As great improvements may be made in the quality as well as quantity of butter from the same milk, by some variation from the common mode of managing the milk—I have therefore made some extracts from a valuable English publication in my possession, entitled a Complete History of Modern Agriculture, by R. W. Dickson M. D.

1st. Exp. Several large tea cups exactly similar in size and shape were filled at regular intervals, the last being filled with the dregs of the milk. From some cows the quantity of cream obtained from the last drawn cup, exceeded that from the first in the proportion of 16 to 1.

2d. The difference in quality was greater than the difference in quantity. In the first cup the cream was a thin tough film, and very white, but in the last of a thick buteraceous consistence, and of a glowing richness of color, that no other kind of cream is found to possess.

3d. The difference in the quality of the milk was perhaps still greater than either, in respect to the quantity or the quality of the cream. In the first cup it was a thin bluish liquid, as if a large portion of water had been mixed with ordinary milk; while in the last cup it was of a thick consistence and yellow color, more resembling cream than milk both in taste and appearance.

4th. The cream which first rises is richer in quality and greater in quantity than what rises in a second equal portion of time.

and the like difference in a third space of time and so on.

5th. Thick milk always throws up a smaller proportion of the cream it actually contains to the surface, than milk which is thinner, but the cream is a richer quality; and if water is added to that thick milk, it will afford a considerably greater quantity of cream than it would have done if allowed to remain pure; but the quality at the same time is greatly debased.

6th. Milk which is put into a pail or any other vessel and carried in it at any distance so as to be agitated and in part cooled before it is put into the milk pans to settle for cream, never throws up so much nor so rich cream as if the same milk had been put into the milk pans directly after it was milked.

From the above it follows,

1st. That cows should be milked as near the Dairy as possible, and in addition to its preventing the agitation and cooling of the milk, if pastures are near the Dairy the cows are not heated by driving.

2d. It is highly injurious to put the milk in large Dairies into one vessel as it is milked, to remain there until all the cows are milked before it is put into milk pans, and for an additional reason to the agitation and cooling, that it mixes the bad with the good milk.

3d. The first drawn milk should be kept separate from the last drawn as the quality of the butter will be improved in proportion to the smallness of the proportion of the last drawn milk that is retained.

4th. If the quality is only alluded to, it is not only necessary to separate the first from the last drawn milk, but also to take nothing but the cream that is first separated from the best milk. The remainder of the milk, may be either employed in making sweet milk cheeses, or it may be allowed to stand to throw up cream for making butter of an inferior quality.

5th. According to the preceding, the best butter could only be made with economy in those dairies where the manufacture of cheese is the principal object. In such dairies a small portion of the last drawn milk should be set apart for butter, all the rest may be made into cheese while it is yet warm from the cow and perfectly sweet, and if only that portion of cream which rises during the three or four hours after milking is to be reserved for butter, the rich milk which is left, after the cream is separated, being still perfectly sweet, may be converted into cheese with as great advantage nearly as the newly-milked milk itself.

6th. As purchasers would not be found wanting to buy the fresh butter made in the manner above pointed out, at the price that would indemnify the farmer for his trouble in making it. These hints are thrown up merely to satisfy the curious in what way butter possessing this superior degree of excellence may be obtained, but for the ordinary market, the writer is satisfied, from experience and attentive observation, that if in general about the first drawn half of the milk be separated at each milking, and the remainder only set up for producing cream, and if that milk be allowed to stand to throw up the whole of its cream, even till it begins sensibly to taste sourish, and if that cream is afterwards carefully managed, the butter thus obtained will be of a quality greatly superior to what can usually be obtained at market, and its quantity not considerably less than if the whole of the milk had been treated alike. This therefore is the practice that is thought most likely to suit the frugal farmer, as his butter though of a superior quality, could be offered at a

price that would always insure it a rapid sale.

From the preceding the following course is recommended to farmers, particularly those who have small dairies. Let a quantity of milk from the first drawing, sufficient for family use, including the supply of cream be taken from the cows on a farm, and set the remainder for cream to make butter for the market. It will take less time to convert such cream into butter, and the butter from such cream will be of a superior quality.

To satisfy myself of the difference in the milk in the first and last drawn from the same cow, I had a tumbler nearly filled with first drawn milk, taking about an equal quantity from each teat—a second tumbler was then filled with about an equal quantity, if any thing a little of the last drawing, taking about an equal quantity from each teat. The result was scarcely any cream from the first, and it could not be well separated from the milk. The cream did not exceed in weight 30 grains, and hardly any yellow particles in the cream—from the last drawing, there was 339 grains of cream, yellow and thick. The milk stood in the tumblers about 10 hours.

C. V.

Hatlowell, June 17, 1836.

We take the following letter in relation to the Sugar Beet from the New England Farmer. It relates to a subject which is becoming of much interest in France, and will we doubt not attract attention, and become a profitable business in this country.

SUGAR BEET SEED.

Washington, June 27, 1836.

THOMAS G. FESSENDEN, Esq.

Dear Sir—I have procured a small quantity of the seed of Sugar Beet, which I shall send to you to-day by Mr. William W. Stone, who will be in Boston on Friday or Saturday of this week. The cultivation of this vegetable, and the manufacture of sugar from it in France has become of great consequence in that country, and is, I think, attracting much attention on this side the Atlantic. It appears to me the cultivation of the Beet in some of the Western States can be carried forward with great success. I do not know whether it can be made profitable in New England, but will thank you to distribute the seed I now send to you among our agricultural friends,—and to accept the assurances with which I remain, dear sir,

Your faithful and ob't serv't.

ABBOTT LAWRENCE.

By the Editor.—The above with the parcels of Sugar Beet seed therein alluded to, have laid us under renewed obligations to the Hon. writer, whose patriotic efforts promote the most important interests of his country, deserve the gratitude of every friend to mankind. We shall distribute the seeds in small portions among cultivators who will be likely to make the most of them. As the season is far advanced, it will, we think, be advisable to soak the seeds in warm water at least 48 hours before planting, which will much accelerate their germination.

OFFICE PONCHARTRAIN, RAILROAD Co.
New Orleans, 19th May, 1836.

THE Board of Directors of this Company, will pay the sum of five thousand dollars to the inventor or projector, of a machine or plan to prevent the escape of sparks from the Chimney of Locomotive Engines, burning wood, and which shall be finally adopted for use of the Company. No further charge to be made for the right of the Company to use the same.

By order of the Board,
JNO. B. LEEFE, Secretary.

11—3m.

TO CONTRACTORS.

Engineer Department York and Maryland Line Railroad Co.
YORK, JULY 10, 1836.

PROPOSALS will be received until Saturday, the 30th inst. in York, for the graduation and Masonry of the whole line of this road, extending from the State line to York, a distance of nearly 20 miles. This road is a continuation of the Baltimore and Susquehanna Railroad, and is the final letting on the line of Railroad from York to Baltimore. On this letting is a Tunnel of about 300 feet in length.

Persons unknown to the undersigned must accompany their proposals with recommendations.

ISAAC TRIMBLE,
Chief Engineer.

WM. GIBBS McNEILL,
Consulting Engineer.

July 15, 1836.

TO CONTRACTORS.

ENGINEER DEPARTMENT, Lawrenceburgh and Indianapolis Railroad Company, June 20, 1836.

PROPOSALS will be received at this office until the 8th of August for the graduation and masonry on the first division of the Road.

This division commences near the Ohio River at Lawrenceburgh, Indiana, and follows the Valley of Tanners Creek a distance of ten miles.

Plans and Profiles of the Route and proposed works can be examined at the Engineers Office, Lawrenceburgh, Dearborn County, Indiana.

25—tau15 JULIUS W. ADAMS, Engineer.

TO CONTRACTORS.

Sealed proposals will be received at Jackson, until the 15th day of September next, for the graduation, masonry and bridging of the 3d division (50 miles) of the Mississippi Railroad.

This road is located on a pine sandy ridge, the country is healthy, and provisions can be readily obtained at all seasons of the year.

The whole line (150 miles) will be placed under contract, as the location advances next fall; and it is believed that no institution can offer greater inducements to good Contractors than this.

F. H. PETRIE, Chief Eng.

ENGINEERS OFFICE,
Natches, June 10, 1836.

15—till Sept. 5, 1836.

WILLIAM ATKINSON, Rochester, New-York, Real Estate Broker, buys and sells on Commission. FARMS in the County of Monroe, and attends to the Collection of Mortgages.

Persons desirous of purchasing Farms in that fertile region, will do well to call on him.

6t*

HUDSON & BERKSHIRE RAILROAD

NOTICE TO CONTRACTORS.

SEALED PROPOSALS will be received by the Hudson & Berkshire Railroad Company, at their office in the city of Hudson, until the 20th day of July, for excavating and embanking 16 miles of their road from Chatham 4 Corners to the city of Hudson. Also 2 bridges of 50 and 70 feet span. Profiles of the route will be exhibited at the Railroad office in the city of Hudson, divided into sections of half a mile and one mile each, for examination, by the 1st of July next. Proposals will also be received for furnishing 300,000 feet of white pine, chestnut, or white hemlock sills, 5 by 8 and 16 feet long; and 10,000 chestnut ties, 8 feet long and 6 inches square.

Persons applying for contracts will be expected, unless personally known to the company or engineer, to present with their proposals, recommendations as to their ability to perform their contracts.

GEORGE RICH, Chief Engineer.

Hudson, June 25, 1836. 25—tj20

NOTICE OF THE NEW-YORK AND ERIE RAILROAD COMPANY.

THE Company hereby withdraw their Advertisement of 26th April, in consequence of their inability to prepare in time, the portions of the line proposed to be let on the 30th June, at Binghamton, and on the 11th of July at Monticello. Future notice shall be given, when proposals will be received at the above places, for the same portions of the road.

JAMES G. KING, President.
21—tf

ARCHIMEDES WORKS.

(100 North Moor street, N. Y.)

NEW-YORK, February 12th, 1836.

THE undersigned begs leave to inform the proprietors of Railroads that they are prepared to furnish all kinds of Machinery for Railroads, Locomotive Engines of any size, Car Wheels, such as are now in successful operation on the Camden and Amboy Railroad, none of which have failed—Castings of all kinds, Wheels, Axles, and Boxes, furnished at shortest notice.

H. R. DUNHAM & CO.
4—ytf

TO CONTRACTORS.

PROPOSALS will be received at the Office of the Eastern Railroad Company, Boston, between the 28th and 30th inst. for the grading and masonry of said Road from East Boston to Newburyport, a distance of 33½ miles.

The line of this road is along a favorable country, passing through Lynn, Salem, Beverly, and Ipswich, which places will afford contractors every facility for obtaining provisions, &c. Plans and Profiles will be ready, and may be seen at the Office, after the 22d instant.

Satisfactory recommendations must accompany the proposals of those who are unknown to the Engineer.

JOHN M. FESSENDEN, Engineer.
22—130j

THE SUBSCRIBER is authorised to sell PAGE'S MORTICING MACHINES, to be used in any of the Western, Southern, or Middle States, (except New-Jersey,) and also to sell Rights for Towns, Counties, or States, in the same region, including New-York.

MACHINES will be furnished complete, ready to work, and at a liberal discount to those who purchase territory, or machines to sell again.

Applications may be made by letter, post paid, or personally, to

D. K. MINOR, Agent for Proprietor,
132 Nassau street, New-York.

Terms of single machines, \$30 to \$35, for common morticing; and \$50 to \$60 for HUB machines, which, in the hands of an experienced man, will mortice 14 to 16 sets of common carriage or wagon hubs per day.

Will be published, in a few days, NICHOLSON'S Treatise on Architecture.—Also, PAMBOUR on Locomotive Engines on Railroads.

NOTICE TO CONTRACTORS.

JAMES RIVER AND KANAWHA CANAL.
PROPOSALS will be received at the Office of the James River and Kanawha Company, in the City of Richmond, from the 15th to the 23rd day of August, for the construction of all the Excavation, Embankment and Walling now under contract, together with nearly all the Culverts and the greater portion of the Locks between Lynchburg and Maidens' Adventure.

The work now advertised embraces the twenty miles between Columbia and the head of Maidens' Adventure Pond, the eight miles between Seven Islands Falls and Scottsville, and about twenty isolated sections, reserved at the former letting, between Scottsville and Lynchburg.

The quantity of masonry offered is very great—consisting of about two hundred Culverts of from three to thirty feet span; nine Aqueducts, thirty-five Locks a number of Wastes, with several farm and road Bridges.

General plans and specifications of all the work, and special plans of the most important Culverts and Aqueducts, will be found at the offices of the several Principal Assistant Engineers on the line of the Canal.

The work will be prepared for examination by the 25th July; but mechanics, well recommended, desirous of immediate employment, can obtain contracts for the construction of a number of Culverts at private letting.

Persons offering to contract, who are unknown to the subscriber, or any of the Assistant Engineers, will be expected to accompany their proposals by the usual certificates of character and ability.

CHARLES ELLET, Jr.,

Chief Engineer of the James River and Kanawha Company.

NOTE.—The Dams, Guard-Locks, most of the Bridges, and a number of Locks and Culverts, are reserved for a future letting. Persons visiting the line for the purpose of obtaining work, would do well to call at the office of the Company in the city of Richmond, where any information which they may desire will be cheerfully communicated.

The valley of James River, between Lynchburg and Richmond, is healthy. (20—18) C. E. Jr.

RAILWAY IRON.

95 tons of 1 inch by 1 inch. FLAT BARS in lengths of 14 to 15 feet, counter sunk holes, ends cut at an angle of 45 degrees, with splicing plates and nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys, and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive Wheels.

Axes of 24, 24 1/2, 3, 3 1/2, 3 1/2, and 3 1/2 inches in diameter, for Railway Cars and Locomotives, of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the drawback taken in part payment.

A. & G. RALSTON,

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them.

4—d7 incowr

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.

Also, Flange Tires, turned complete.

18 ROGERS, KETCHUM & GROSVENOR.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads.

No. 264 Elizabeth street, near Bleeker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation J25t

ALBANY EAGLE AIR FURNACE AND MACHINE SHOP.

WILLIAM V. MANY manufactures to order. IRON CASTINGS for Gearing Mills and Factories of every description.

ALSO—Steam Engines and Railroad Castings of every description.

The collection of Patterns for Machinery, is not equalled in the United States. 9—ty

FRAME BRIDGES.

THE subscriber would respectfully inform the public, and particularly Railroad and Bridge Corporations that he will build Frame Bridges, or vend the right to others to build, on Col. Long's Patent, throughout the United States, with few exceptions. The following sub-Agents have been engaged by the undersigned who will also attend to this business, viz.

| | |
|-------------------------|------------------------------|
| Horace Childs, | Henniker, N. H. |
| Alexander McArthur, | Mount Morris, N. Y. |
| John Mahan, | do do |
| Thomas H. Cushing, | Dover, N. H. |
| Ira Blake, | Wakefield, N. H. |
| Amos Whitmore, Esq., | Hancock, N. H. |
| Samuel Herrick, | Springfield, Vermont. |
| Simone Herrick, | do do |
| Capt. Isaac Damon, | Northampton, Mass. |
| Lyman Kingsly, | do do |
| Elijah Halbert, | Waterloo, N. Y. |
| Joseph Hebard, | Dunkirk, N. Y. |
| Col. Sherman Peck, | Hudson, Ohio. |
| Andrew E. Turnbull, | Lower Sandusky, Ohio. |
| William J. Turnbull, | do do |
| Sabrid Dodge, Esq., | (Civil Engineer,) Ohio. |
| Booz M. Atherton, Esq., | New-Philadelphia, Ohio. |
| Stephen Daniels, | Marietta, Ohio. |
| John Rodgers, | Louisville, Kentucky. |
| John Tillson, | St. Francisville, Louisiana. |
| Capt. John Bottom, | Tonawanda, Penn. |
| Nehemiah Osborn, | Rochester, N. Y. |

Bridges on the above plan are to be seen at the following localities, viz. On the main road leading from Baltimore to Washington, two miles from the former place. Across the Metawankeng river on the Military road, in Maine. On the National road in Illinois, at sundry points. On the Baltimore and Susquehanna Railroad at three points. On the Hudson and Paterson Railroad, in two places. On the Boston and Worcester Railroad, at several points. On the Boston and Providence Railroad, at sundry points. Across the Contoocook river at Hancock, N. H. Across the Connecticut river at Haverhill, N. H. Across the Contoocook river, at Henniker, N. H. Across the Souhegan river, at Milford, N. H. Across the Kennebec river, at Waterville, in the state of Maine. Across the Genesee river, at Mount Morris, New-York, and several other bridges are now in progress.

The undersigned is about to fix his residence in Rochester, Monroe county, New-York, where he will promptly attend to orders in this line of business to any practicable extent in the United States, Maryland excepted.

MOSES LONG.

General Agent of Col. S. H. Long. Rochester, May 22d, 1836. 19y-tf.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y., July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes. (J23am) H. BURDEN.

AMES' CELEBRATED SHOVELS, SPADES, &c.

300 dozens Ames' superior back-strap Shovels
150 do do do plain do
150 do do do cast-steel Shovels & Spades
150 do do Gold-mining Shovels
100 do do plated Spades
50 do do socket Shovels and Spades.

Together with Pick Axes, Churn Drills, and Crow Bars (steel pointed), manufactured from Salisbury refined iron—for sale by the manufacturing agents, **WITHERELL, AMES & CO.**

No. 2 Liberty street, New-York. **BACKUS, AMES & CO.**

No. 8 State street, Albany. N. B.—Also furnished to order, Shapes of every description, made from Salisbury refined Iron. 4—yt

MILL-DAM FOUNDRY.

TO BE SOLD OR LEASED the above well known establishment, situated one mile from Boston. The improvements consist of,

No. 1. Boiler House, 50 feet by 50 feet, containing all the necessary machinery for making boilers for Locomotive and other steam Engines.

No. 2. Blacksmith's Shop, 50 feet by 20, fitted with cranes for heavy work.

No. 3. Locomotive House, 54 feet by 25, used for putting together Locomotive Engines. Several of the best Engines in use in the United States have been put in this establishment.

No. 4. A three story brick building, covered with slate, 120 feet by 40, containing two water-wheels, equal to 40 horse power; Machine Shop, filled with lathes, &c.; Pattern Shop; Rolling Mill and Furnaces, capable of rolling 4 tons of iron per diem, exclusive of other work; three Trip Hammers, one of which is very large; engine for blowing Cupola Furnaces, moved by water-wheel; one very superior 12 horse Steam Engine, which could be dispensed with; and a variety of other machinery.

No. 5. An Iron Foundry, 80 feet by 45, with a superior air Furnace, and two Cupolas, Core oven, Cranes, &c. fitted for the largest work. Attached to the Foundry is a large ware-house, containing Patterns for the Castings of Hydraulic Presses, Locomotive and other Steam Engines, Lead Mill Rolls, Geering, Shafts, Stoves, Grates, &c. These were made of the most durable materials, under the direction of a very scientific and practical Engineer, and are supposed to be of great value.

No. 6. A building, 65 feet by 36, containing a large stack of chimneys, and furnaces, for making Cast Steel. This building has been used as a boarding-house, and can accommodate a large number of men.

No. 7. A range of buildings, 200 feet long by 30, containing counting room, several store rooms, a Brass Foundry, room for cleaning castings, a large loft for storing patterns, stable for two horses, &c. &c.

The above establishment being on tide water, presents greater advantages for some kinds of business than any other in the United States. Coal and Iron can be carried from vessels in the harbors of Boston, to the wharf in front of the Factory, at 25 to 30 cents per ton. Some of the largest jobs of iron work have been completed at this establishment; among others, the great chain and lift pumps for freeing the Dry Dock at the Navy Yard, Charleston.

The situation for Railroad work is excellent, being in the angle formed by the crossing of the Providence and Worcester Railroads. The Locomotive "Yankee," now running on the latter road, and the "Boston," purchased by the State of Pennsylvania, were built at these works. With the Patterns and Machinery now in the premises, 20 Locomotives, and as many tenders, besides a great quantity of cars and wagons, could be made per annum.

For terms, apply to

THOS. J. ECKLEY, Boston, or to **ROBERT RALSTON, Jr. Phila.** Boston, April 21, 1835. J25—4t

THE NEWCASTLE MANUFACTURING COMPANY, incorporated by the State of Delaware, with a capital of 200,000 dollars, are prepared to execute in the first style and on liberal terms, at their extensive Finishing Shops and Foundries for Brass and Iron, situated in the town of Newcastle, Delaware, all orders for LOCOMOTIVE and other Steam Engines, and for CASTINGS of every description in Brass or Iron RAILROAD WORK of all kinds finished in the best manner, and at the shortest notice.

Orders to be addressed to **MR. EDWARD A. G. YOUNG,** feb 20—yt Superintendent, Newcastle, Del.

